US009873017B2

(12) **United States Patent**
Barel

(10) **Patent No.: US 9,873,017 B2**
(45) **Date of Patent: Jan. 23, 2018**

(54) **APPARATUS AND METHODS FOR EXERCISING A LIMB OF A USER**

(71) Applicant: **Gregory Barel**, Brooklyn, NY (US)

(72) Inventor: **Gregory Barel**, Brooklyn, NY (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/715,274**

(22) Filed: **May 18, 2015**

(65) **Prior Publication Data**

US 2016/0339296 A1 Nov. 24, 2016

(51) **Int. Cl.**

A63B 23/08	(2006.01)
A63B 23/10	(2006.01)
A63B 21/055	(2006.01)
A63B 21/00	(2006.01)
A63B 21/04	(2006.01)

(52) **U.S. Cl.**

CPC ***A63B 23/08*** (2013.01); ***A63B 21/0552*** (2013.01); ***A63B 21/0557*** (2013.01); ***A63B 21/4011*** (2015.10); ***A63B 21/4015*** (2015.10); ***A63B 21/4025*** (2015.10); ***A63B 21/4034*** (2015.10); ***A63B 23/10*** (2013.01); *A63B 21/04* (2013.01); *A63B 21/0407* (2013.01); *A63B 2210/50* (2013.01)

(58) **Field of Classification Search**

CPC A63B 23/08; A63B 23/10; A63B 21/0552; A63B 21/04; A63B 21/0407; A63B 21/4035

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,439,100	A *	4/1948	Richards	A61F 5/0127 602/28
3,345,067	A *	10/1967	Smith	A63B 21/04 482/121
3,606,343	A *	9/1971	Lemon	A63B 71/146 473/213
4,606,542	A *	8/1986	Segal	A61F 5/0125 482/105
4,869,499	A *	9/1989	Schiraldo	A61H 1/0266 482/124
5,215,508	A *	6/1993	Bastow	A63B 23/08 482/112
6,503,178	B1 *	1/2003	Gibbons	A63B 21/0004 482/121
8,114,042	B2 *	2/2012	Klotz	A61F 5/0113 2/467
8,480,546	B2 *	7/2013	Spencer	A43B 7/00 482/44
8,827,873	B2 *	9/2014	Arnstein	A61H 1/0266 482/79
9,089,403	B2 *	7/2015	Nace	A61F 5/0125
9,259,343	B2 *	2/2016	Newman	A61F 5/0127
2002/0193210	A1 *	12/2002	Turner	A63B 21/4047 482/80
2005/0192168	A1 *	9/2005	Wilcocks	A63B 21/0004 482/124

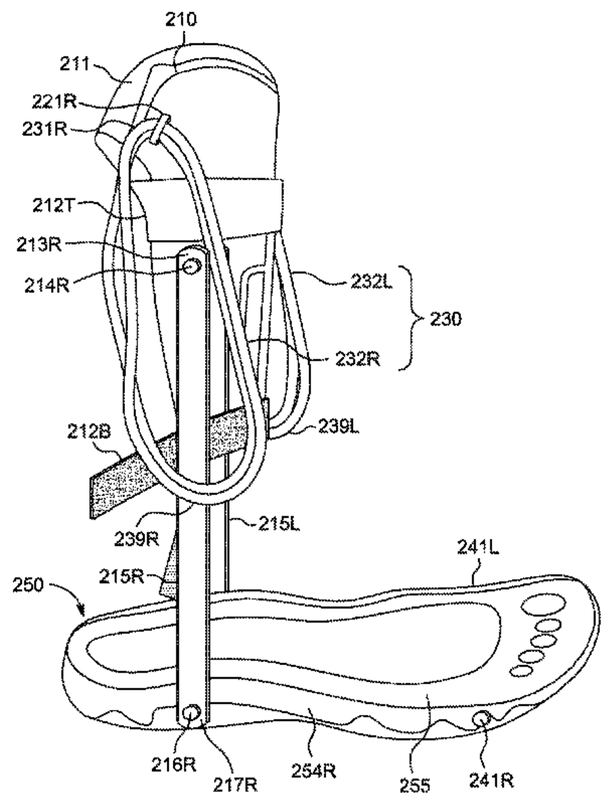
(Continued)

Primary Examiner — Loan H Thanh
Assistant Examiner — Megan Anderson
(74) *Attorney, Agent, or Firm* — Van Court & Aldridge LLP

(57) **ABSTRACT**

At least one elastic link may be simultaneously coupled to two different portions of a limb of a user in order to provide resistance to the limb when the limb attempts to change the distance between the two different portions of the limb.

14 Claims, 18 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

2007/0287615	A1*	12/2007	Gilchrist	A63B 21/0004 482/124
2009/0131233	A1*	5/2009	Seitzer	A63B 21/4015 482/105
2011/0172578	A1*	7/2011	Chiu	A61F 5/0127 602/28

* cited by examiner

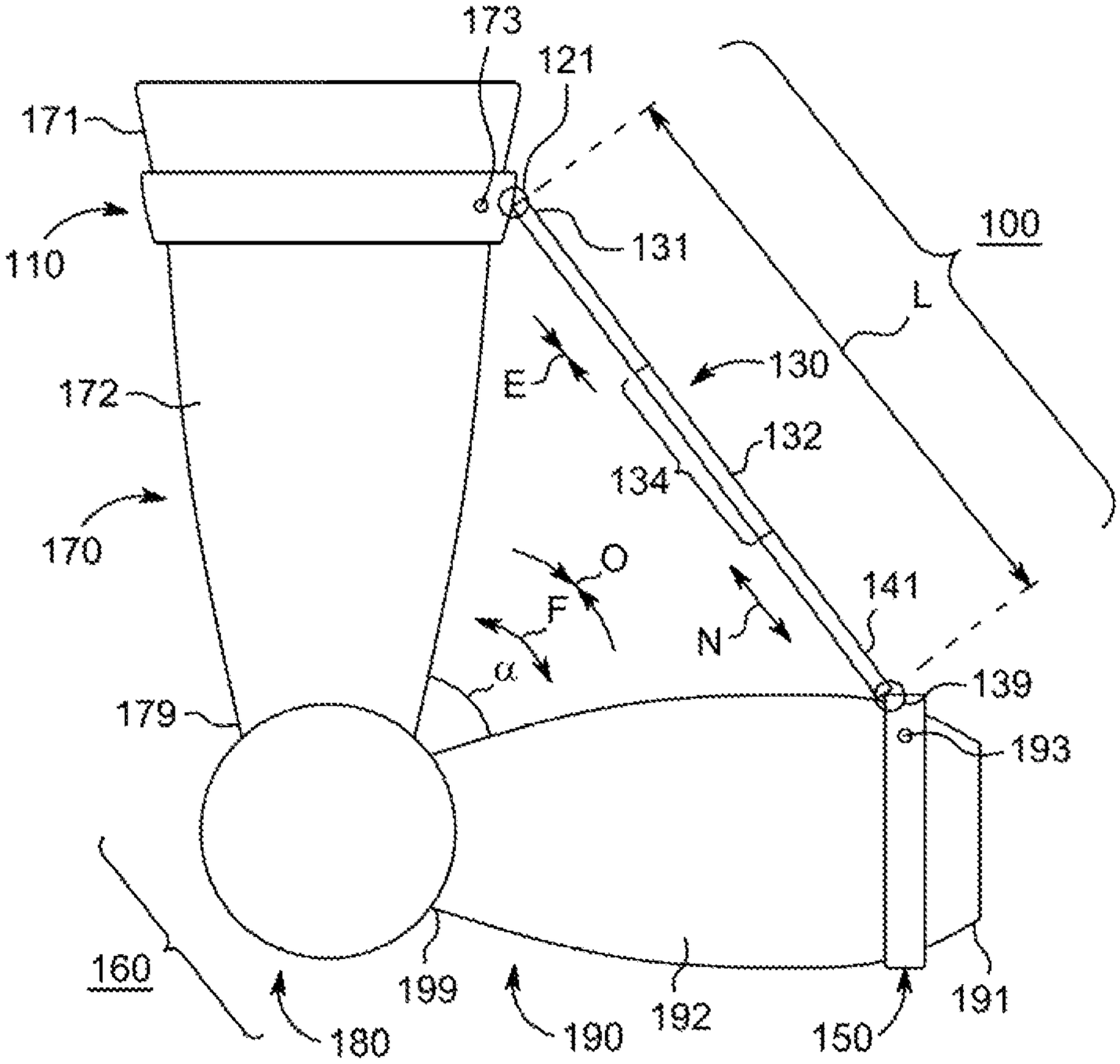

173
121
171
110
131
100
L
130
E
172
132
134
170
O
F
N
141
α
139
179
193
160
199
190
192
150
191
180

FIG. 1

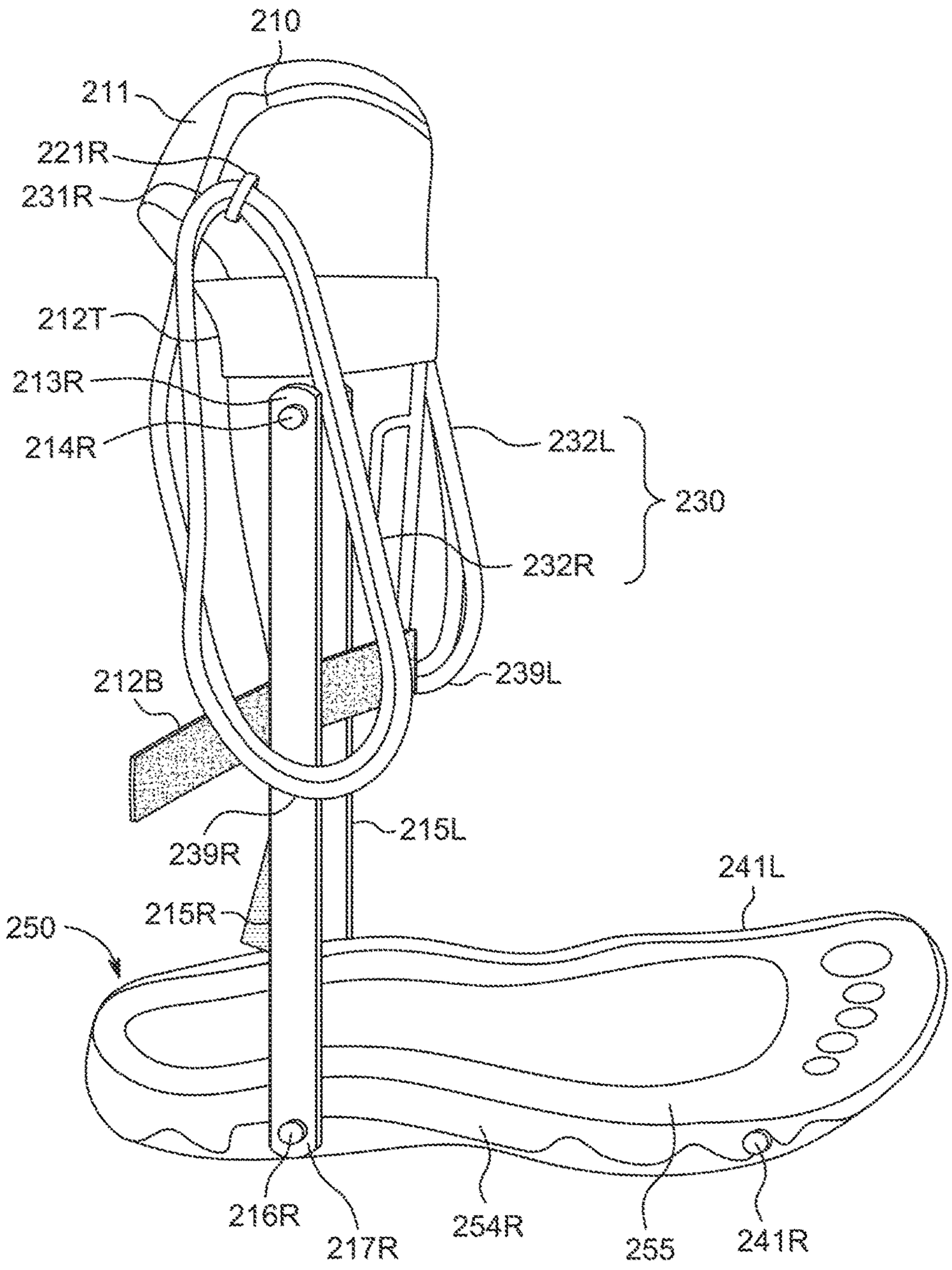

200
210
211
221R
231R
212T
213R
214R
232L
230
232R
212B
239L
239R
215L
241L
215R
250
216R
217R
254R
255
241R

FIG. 2

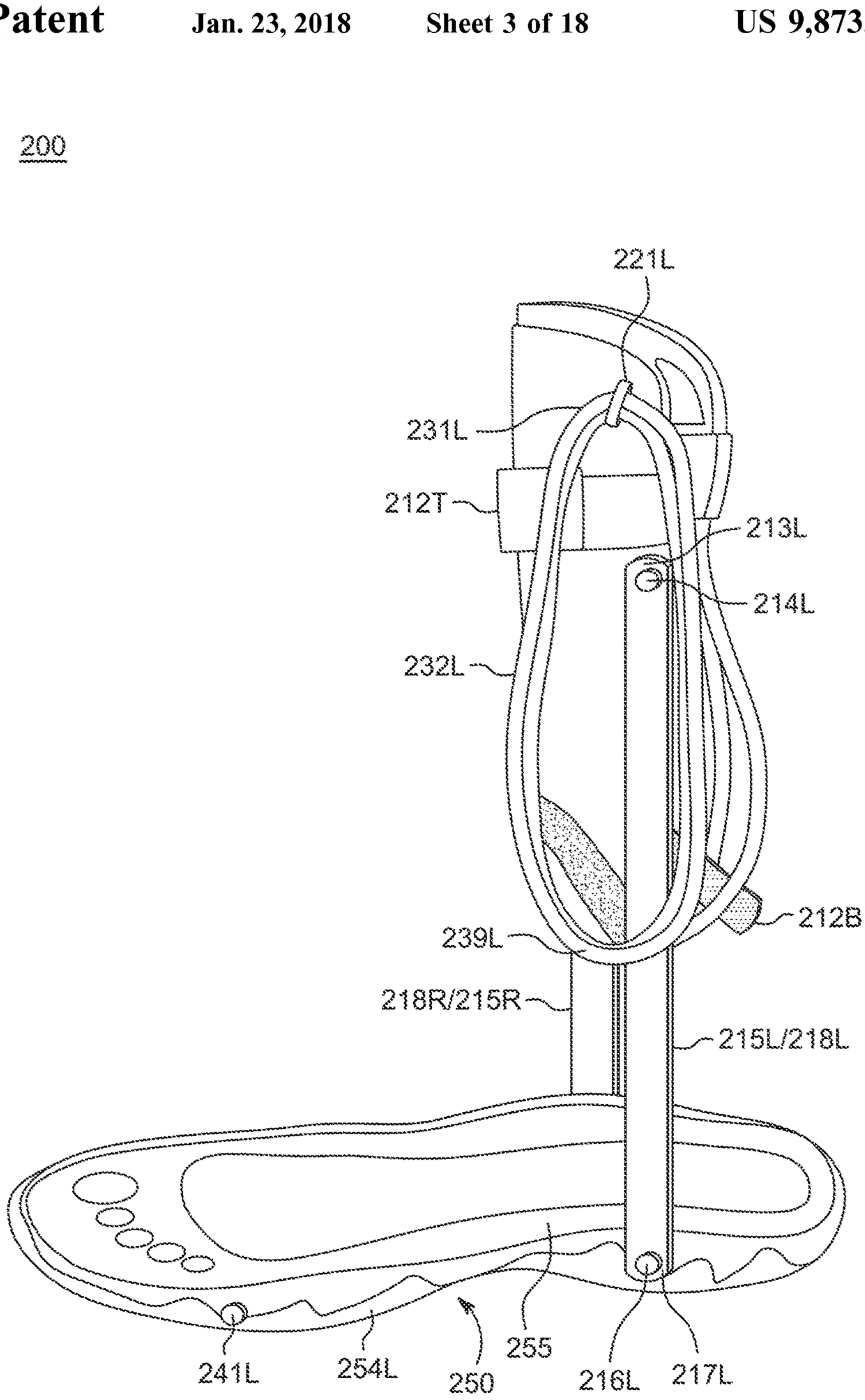

200
221L
231L
212T
213L
214L
232L
212B
239L
218R/215R
215L/218L
241L
254L
250
255
216L
217L

FIG. 3

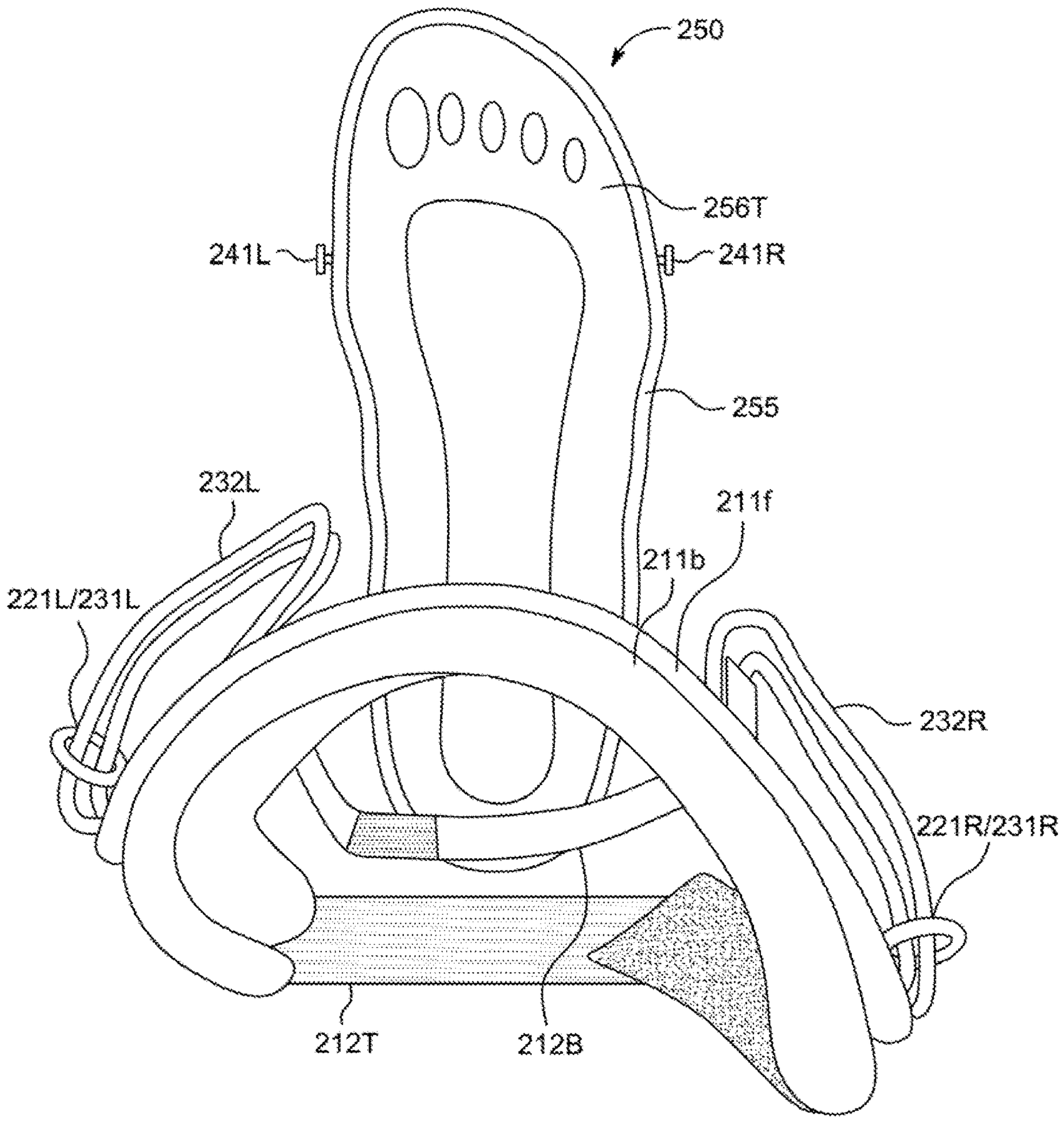

200
250
256T
241L
241R
255
232L
211f
211b
221L/231L
232R
221R/231R
212T
212B

FIG. 4

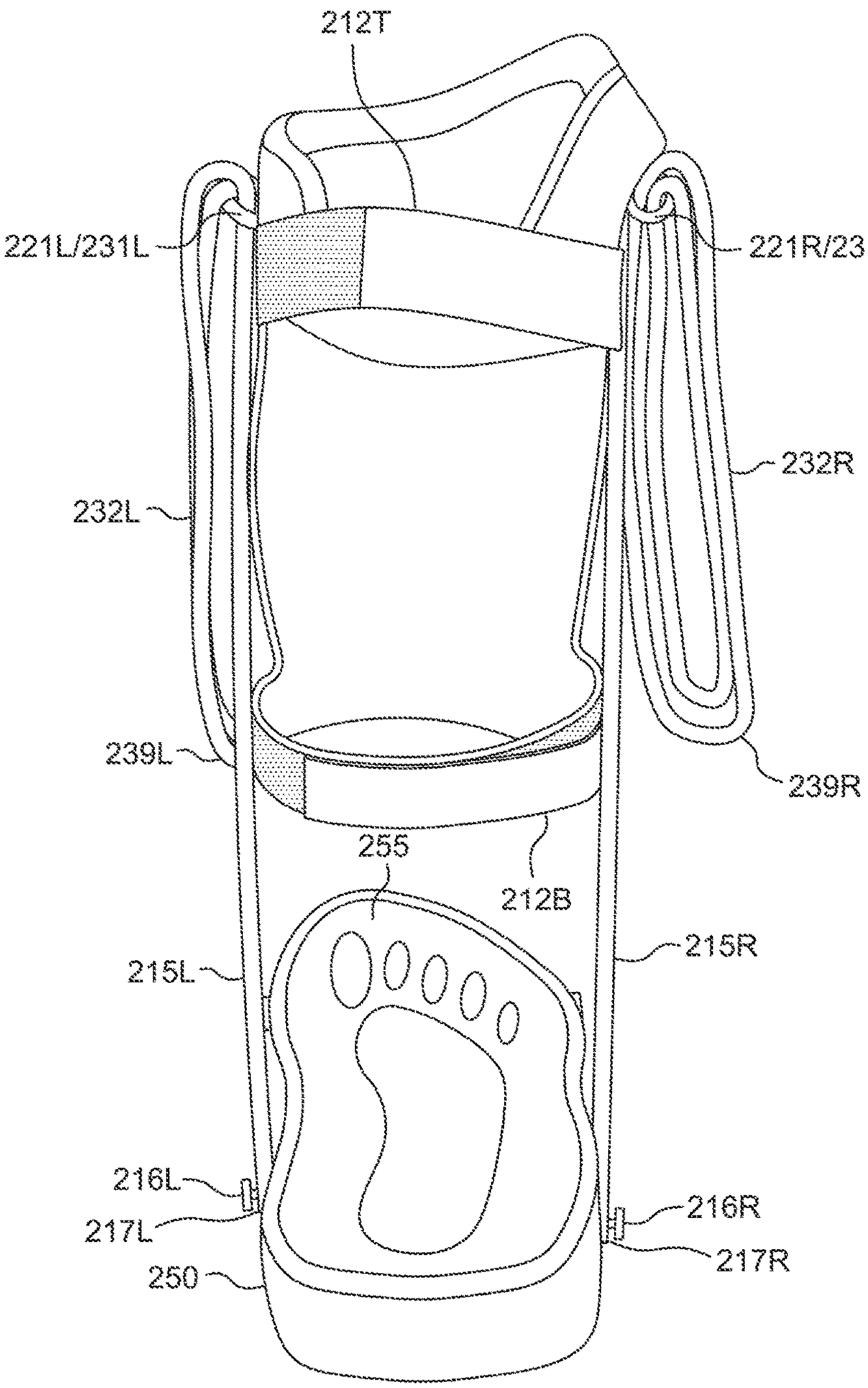

200
212T
221L/231L
221R/231R
232L
232R
239L
239R
255
212B
215L
215R
216L
216R
217L
217R
250

FIG. 5

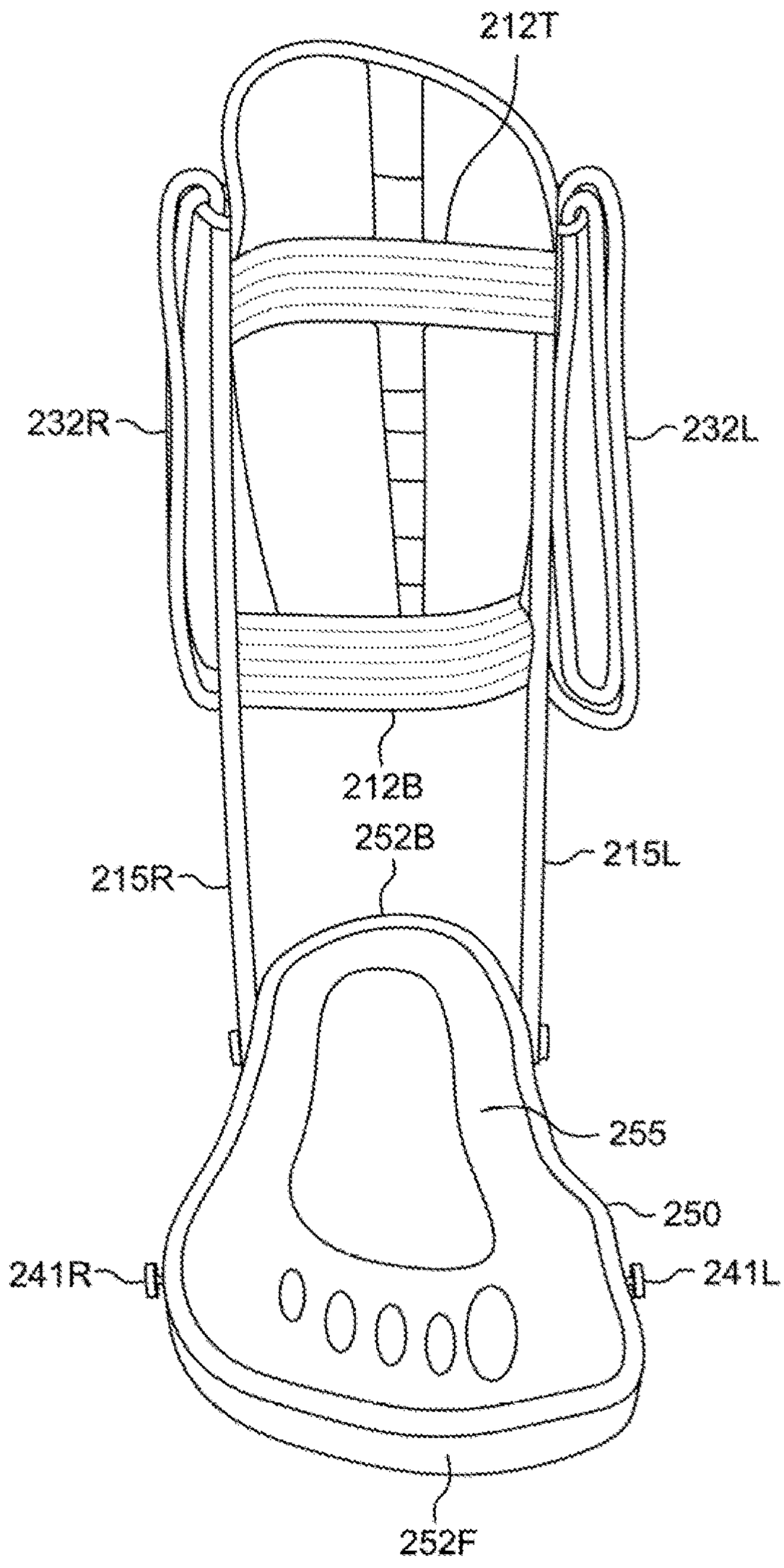


FIG. 6

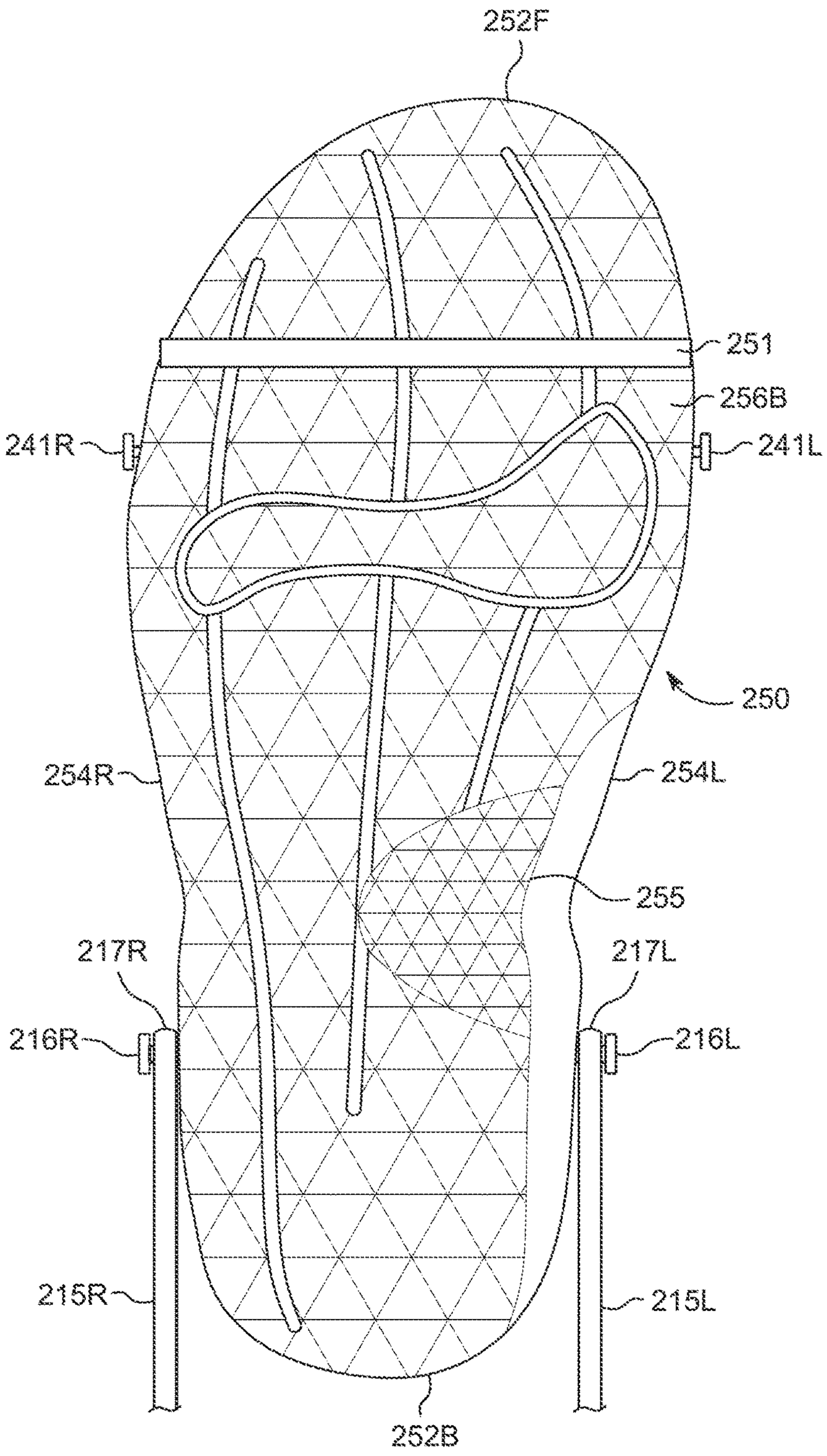

200
252F
251
256B
241R
241L
250
254R
254L
255
217R
217L
216R
216L
215R
215L
252B

FIG. 7

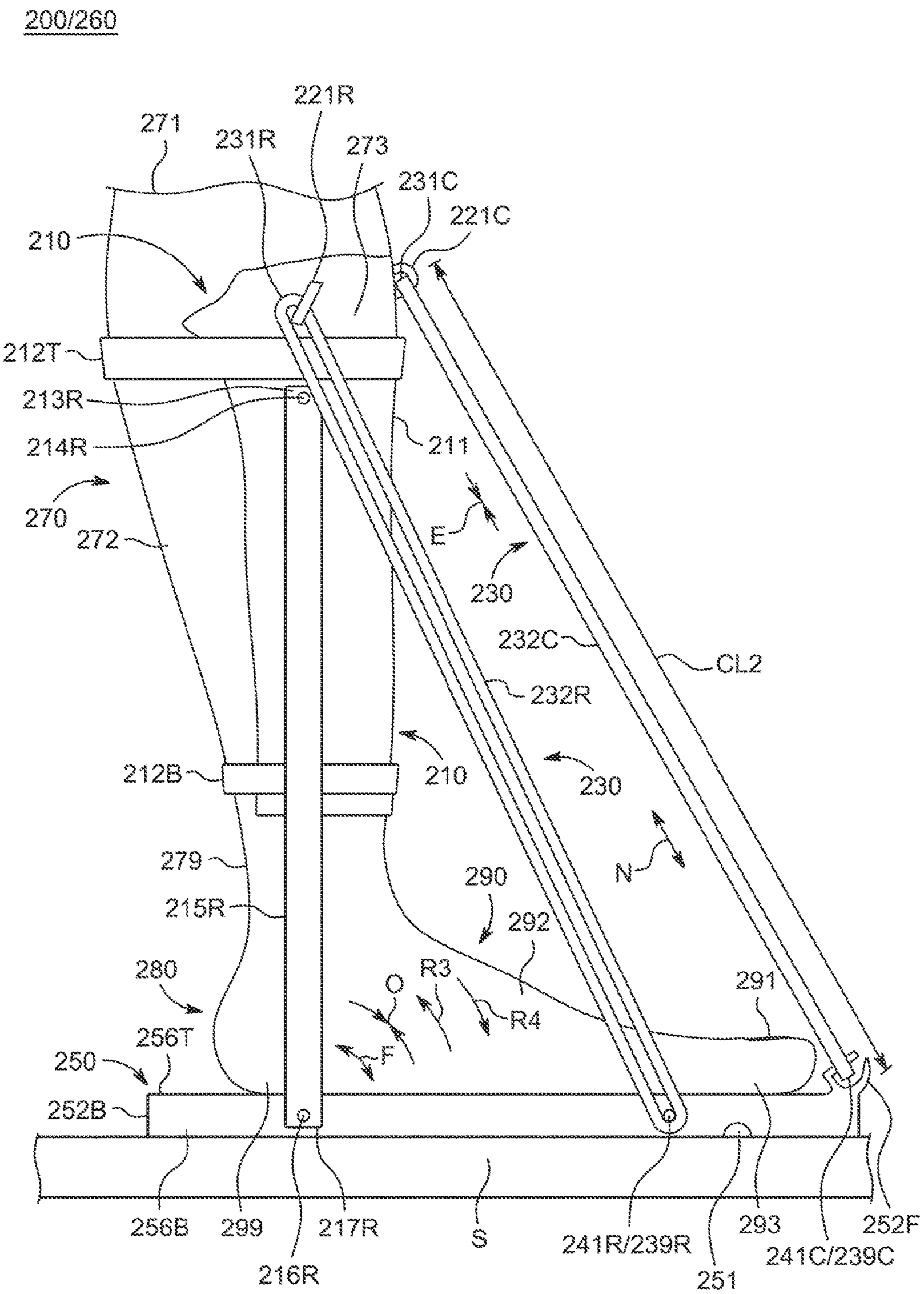

200/260
221R
271
231R
273
231C
221C
210
212T
213R
214R
211
270
272
E
230
232C
CL2
232R
212B
210
230
279
290
N
215R
292
280
R3
291
O
R4
256T
F
250
252B
256B
299
217R
S
241R/239R
293
252F
241C/239C
216R
251

FIG. 8

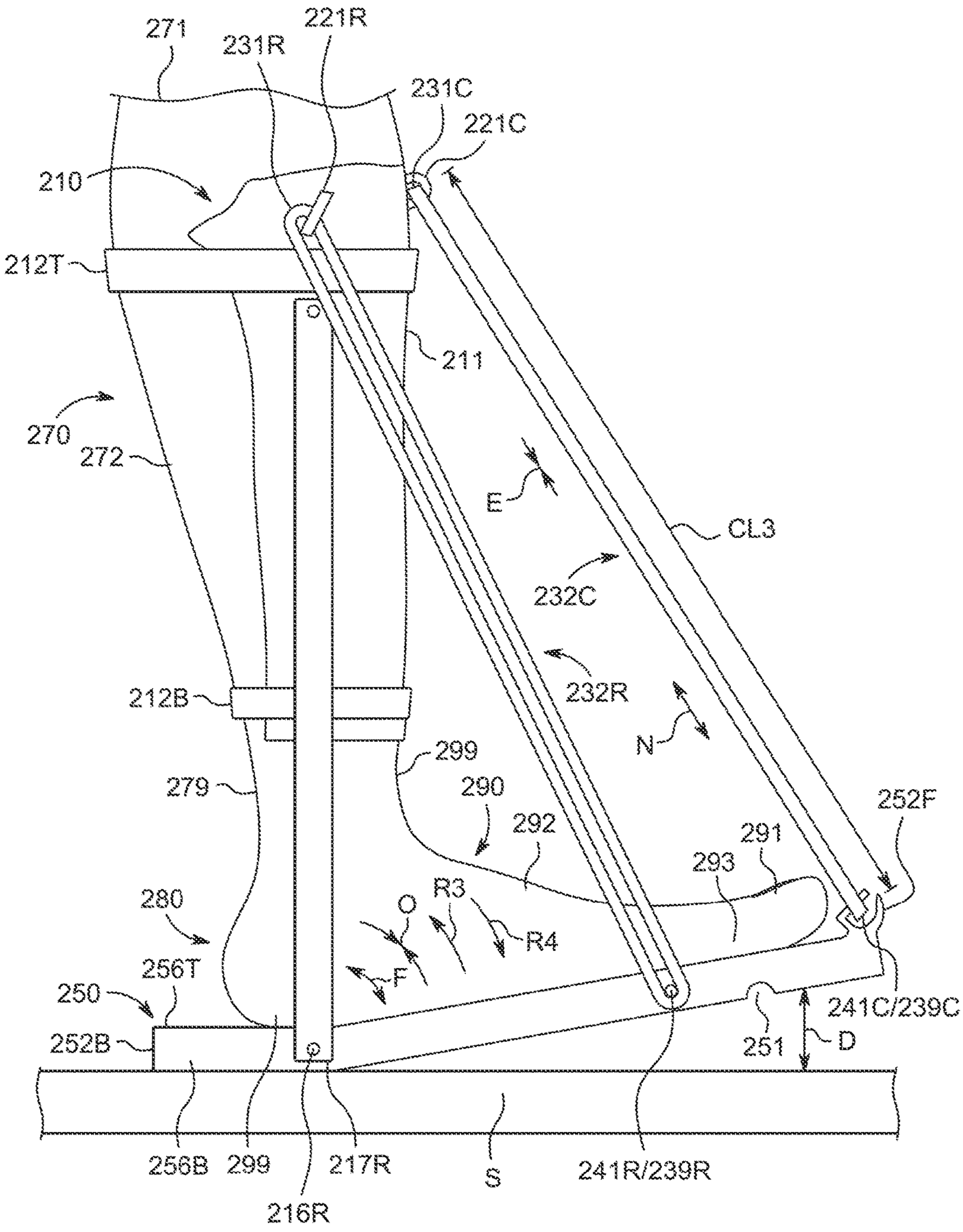

200/260
271
231R
221R
231C
221C
210
212T
211
270
272
E
CL3
232C
232R
N
212B
299
279
290
292
252F
291
293
280
R3
R4
O
F
256T
250
252B
241C/239C
251
D
256B
299
217R
216R
S
241R/239R

FIG. 9

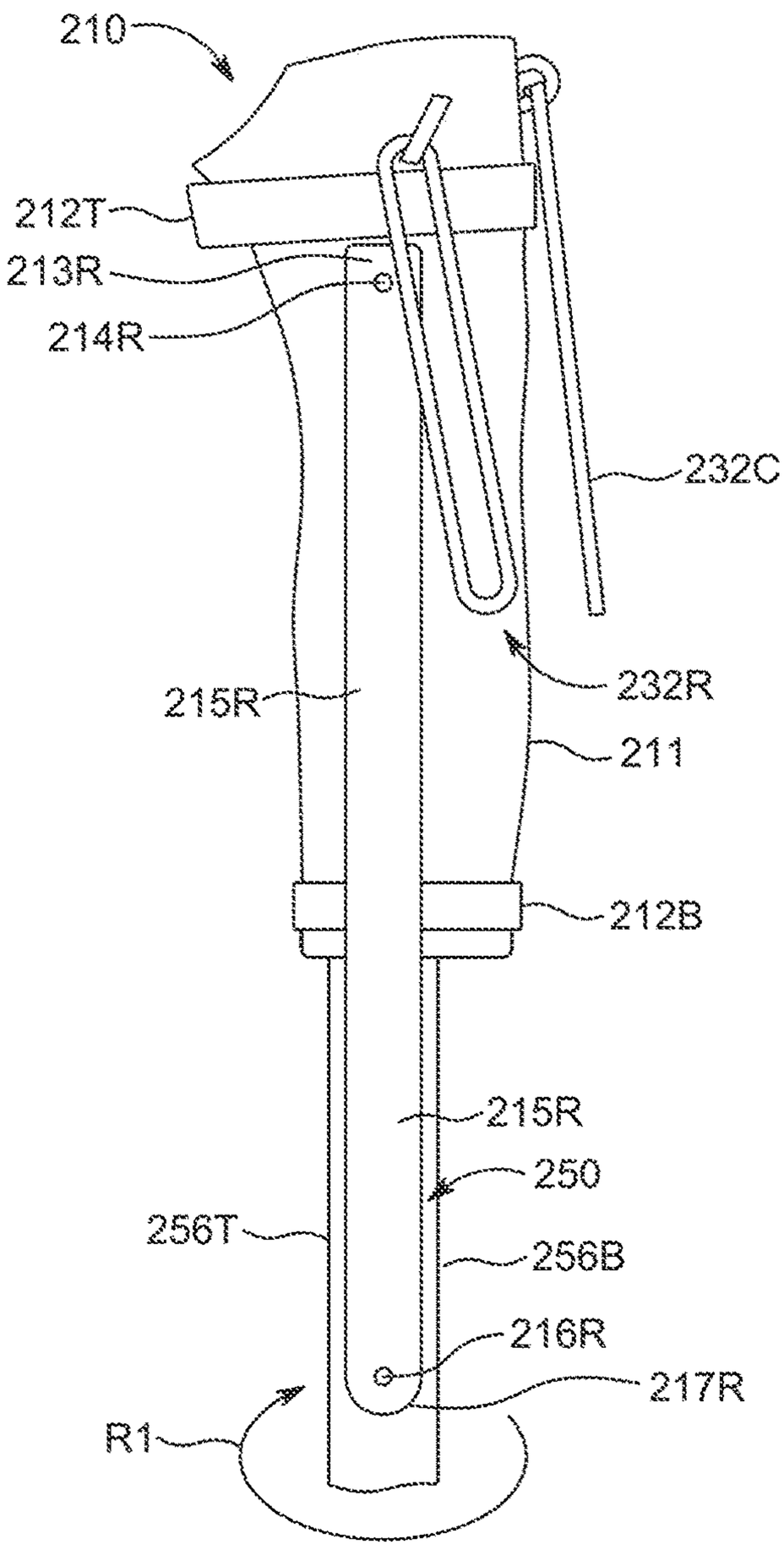

200
210
212T
213R
214R
232C
232R
215R
211
212B
215R
250
256T
256B
216R
217R
R1

FIG. 10

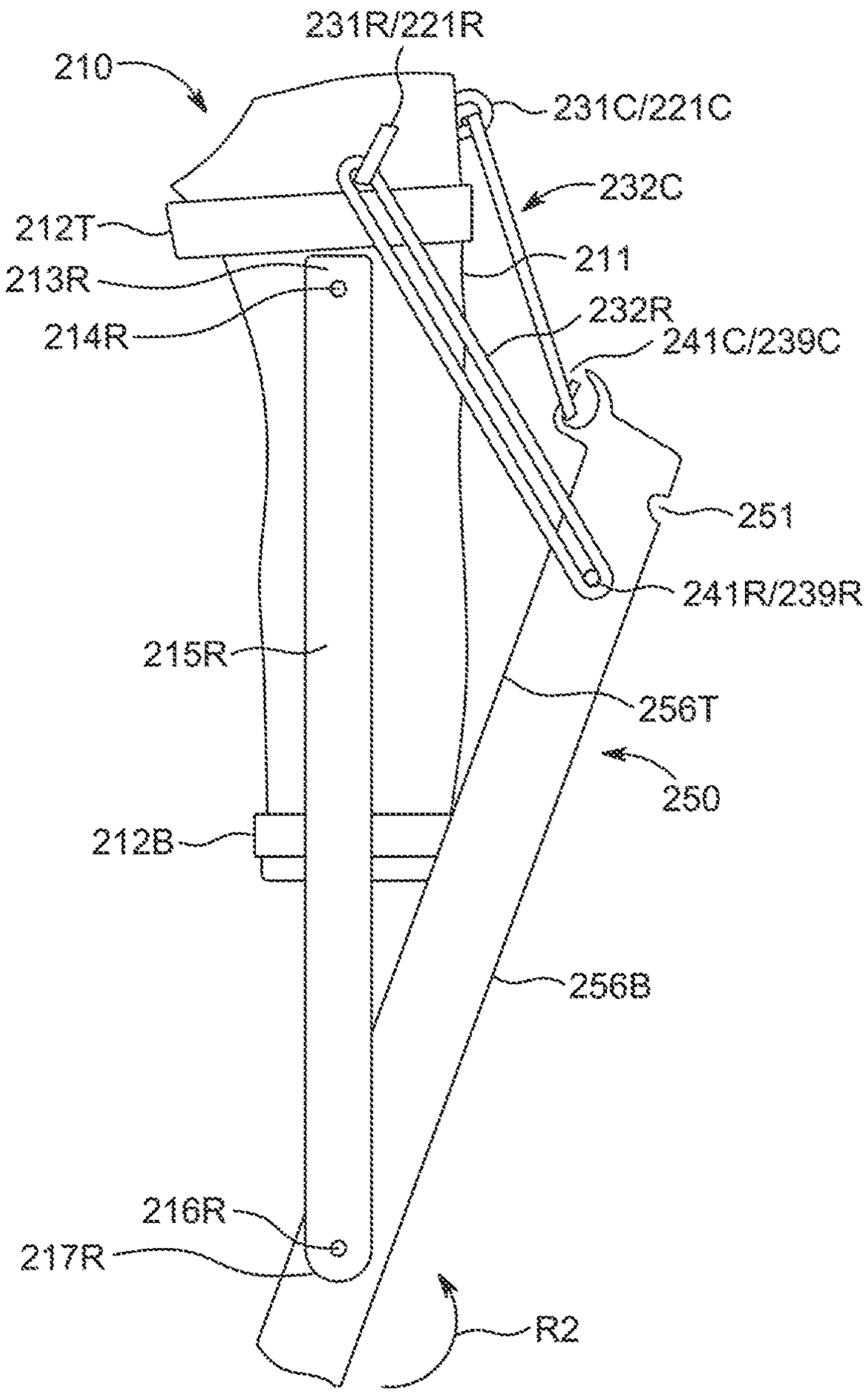

200
231R/221R
210
231C/221C
232C
212T
211
213R
232R
214R
241C/239C
251
241R/239R
215R
256T
250
212B
256B
216R
217R
R2

FIG. 11

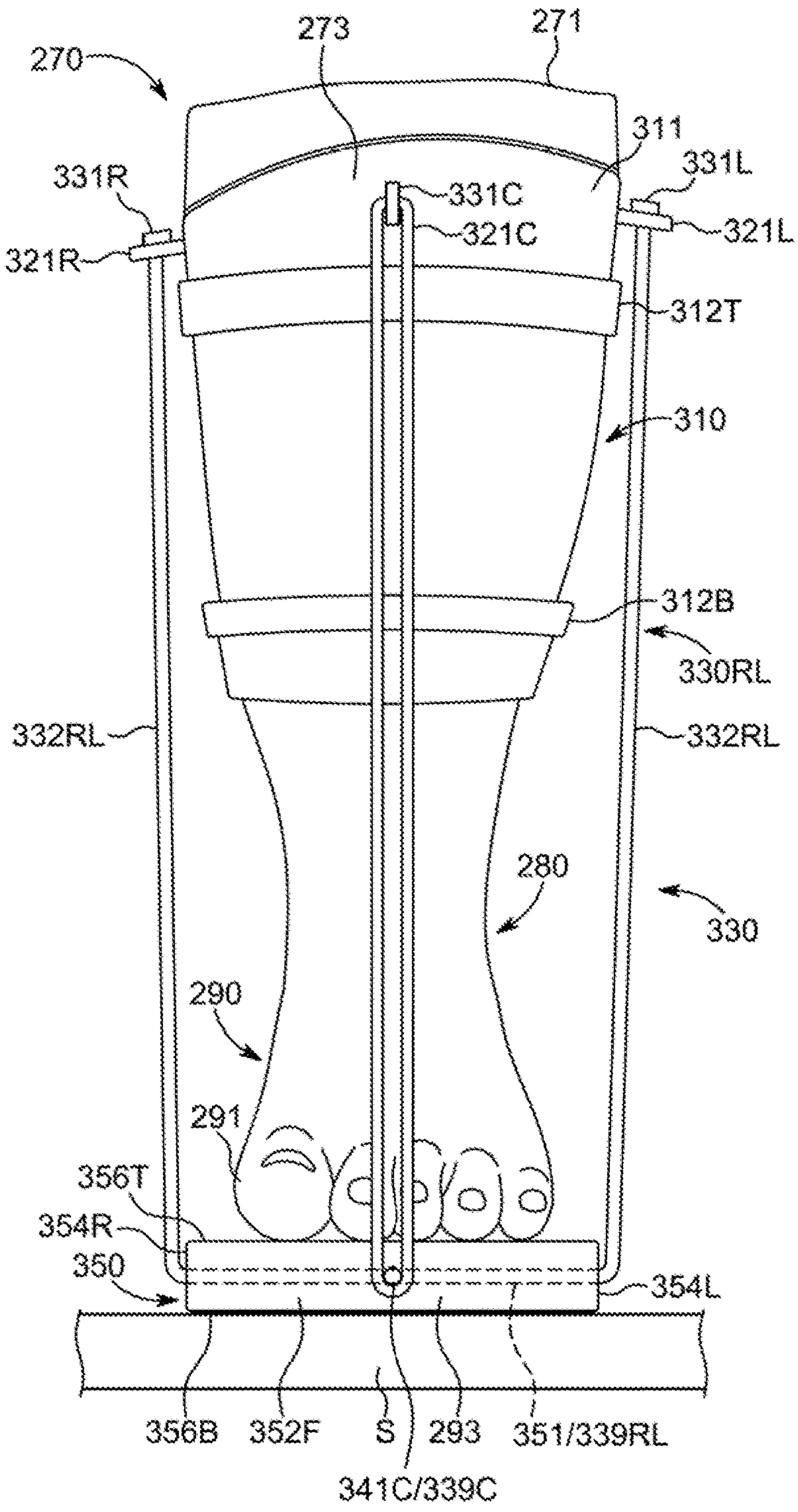

300/260
270
273
271
311
331R
331L
331C
321C
321R
321L
312T
310
312B
330RL
332RL
332RL
280
330
290
291
356T
354R
350
354L
356B
352F
S
293
351/339RL
341C/339C

FIG. 12

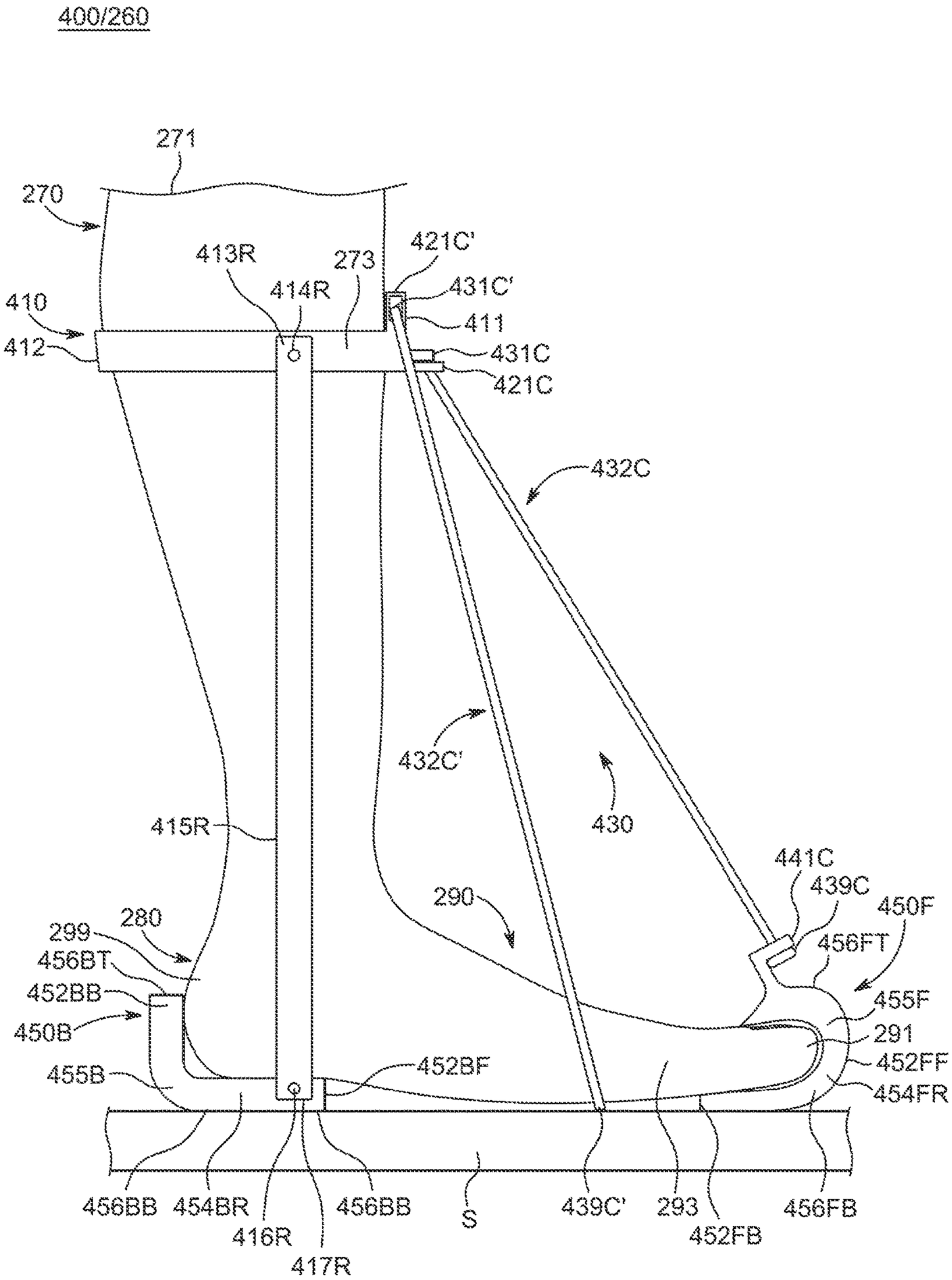

400/260
271
270
421C'
413R
273
414R
431C'
410
411
412
431C
421C
432C
432C'
430
415R
441C
439C
290
280
299
450F
456BT
456FT
452BB
455F
450B
291
452FF
455B
452BF
454FR
456BB
454BR
456BB
S
439C'
293
456FB
416R
452FB
417R

FIG. 13

400/260

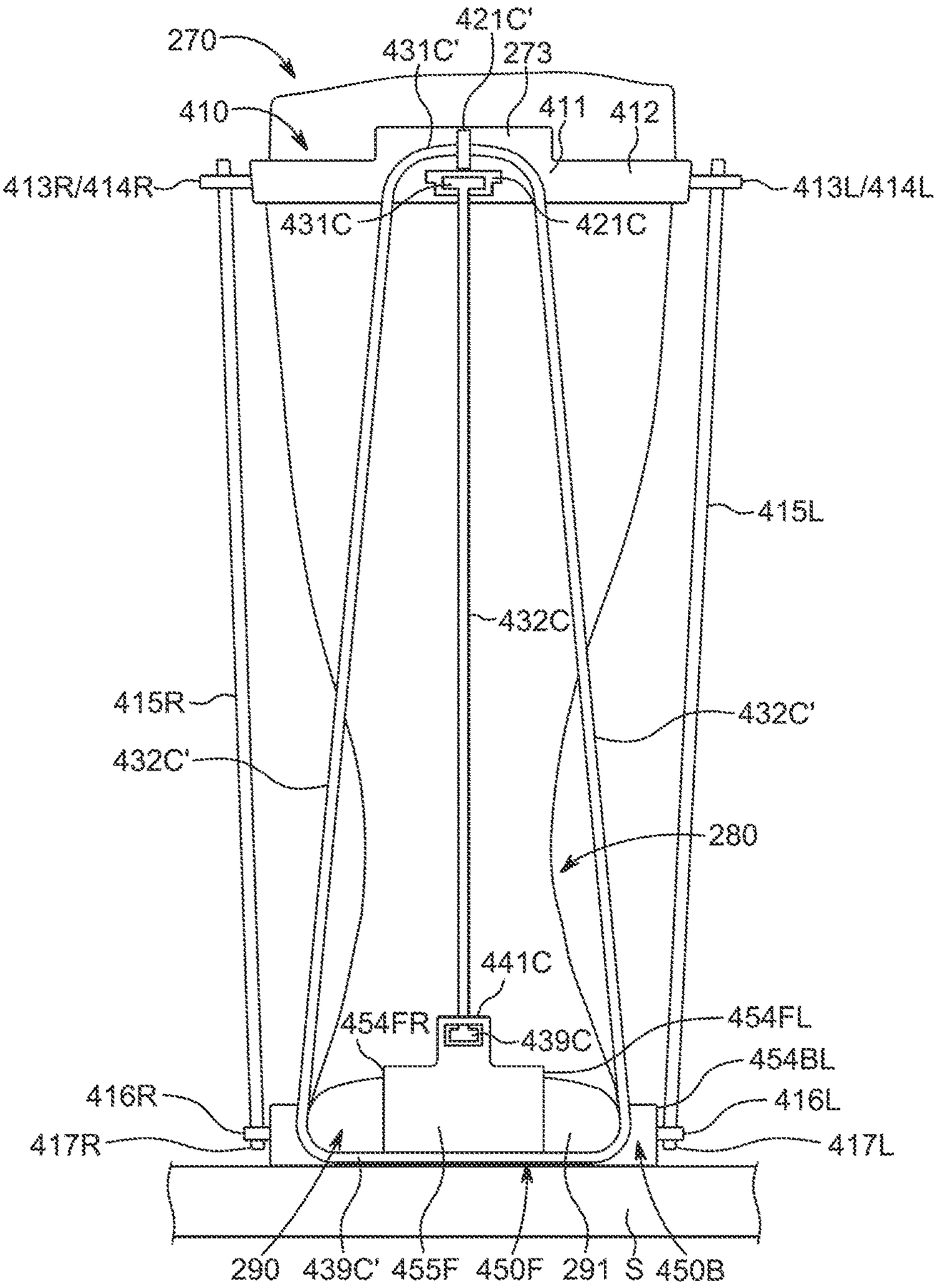


FIG. 14

500/260

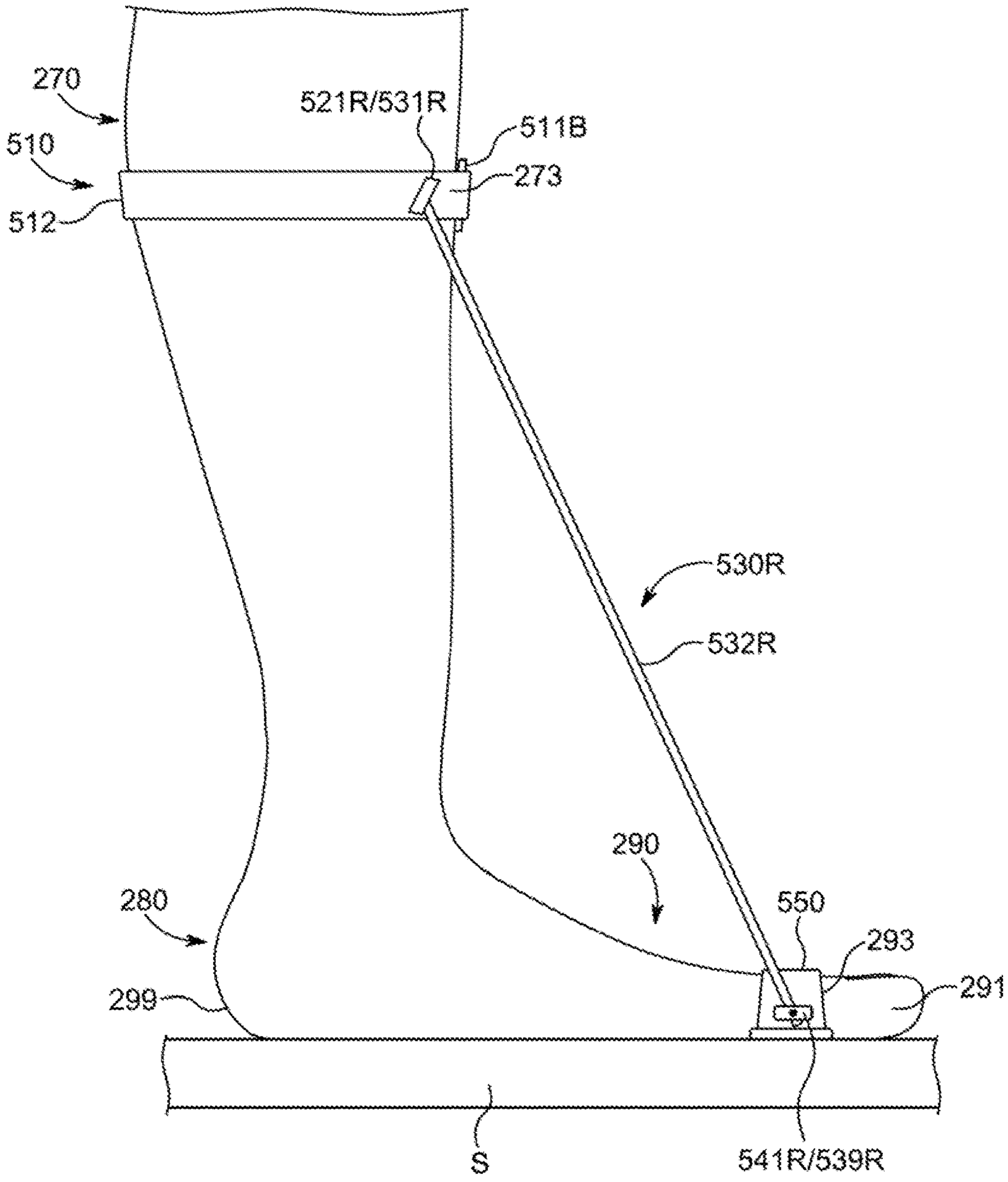


FIG. 15

500/260

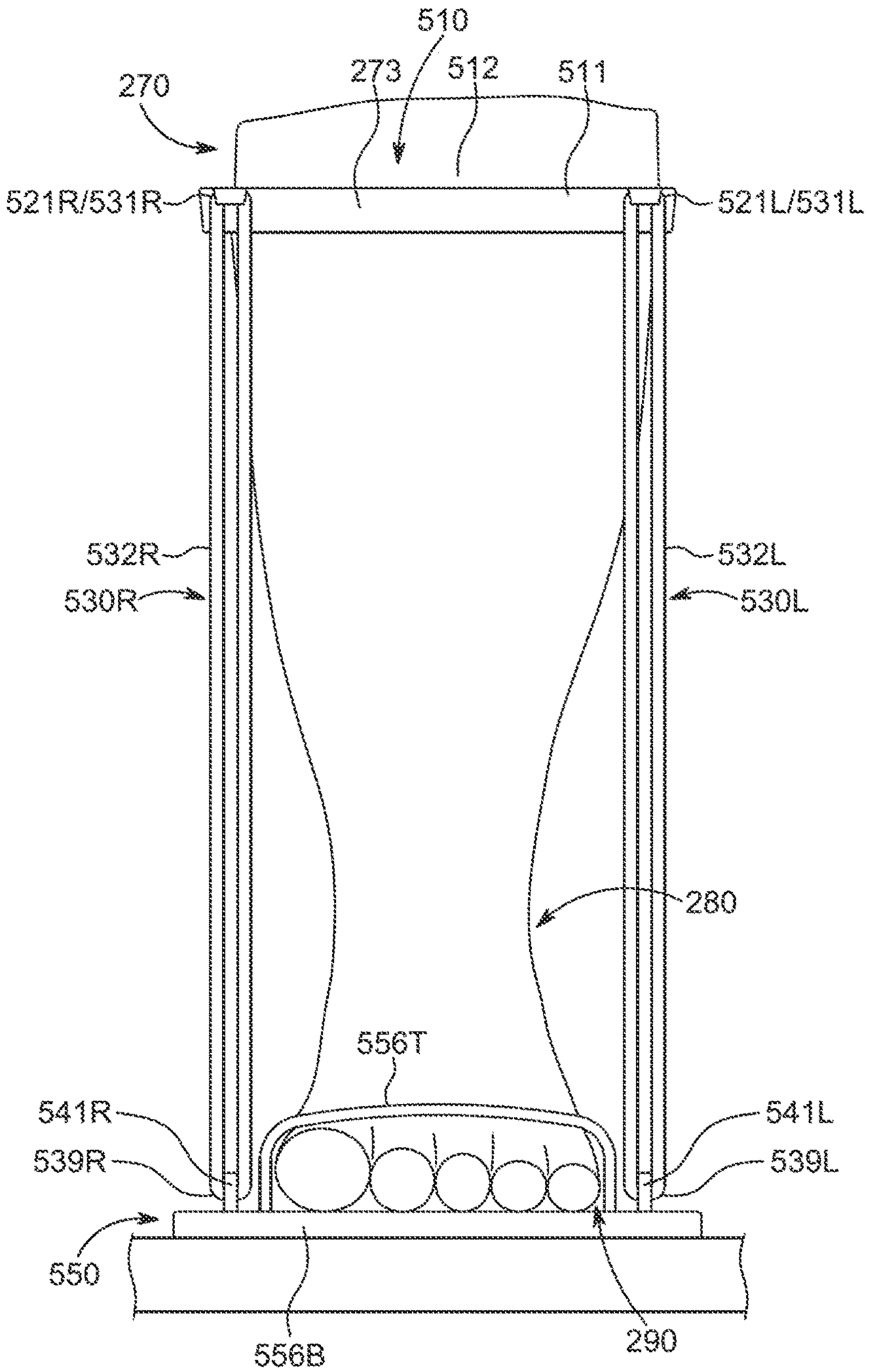


FIG. 16

500/260

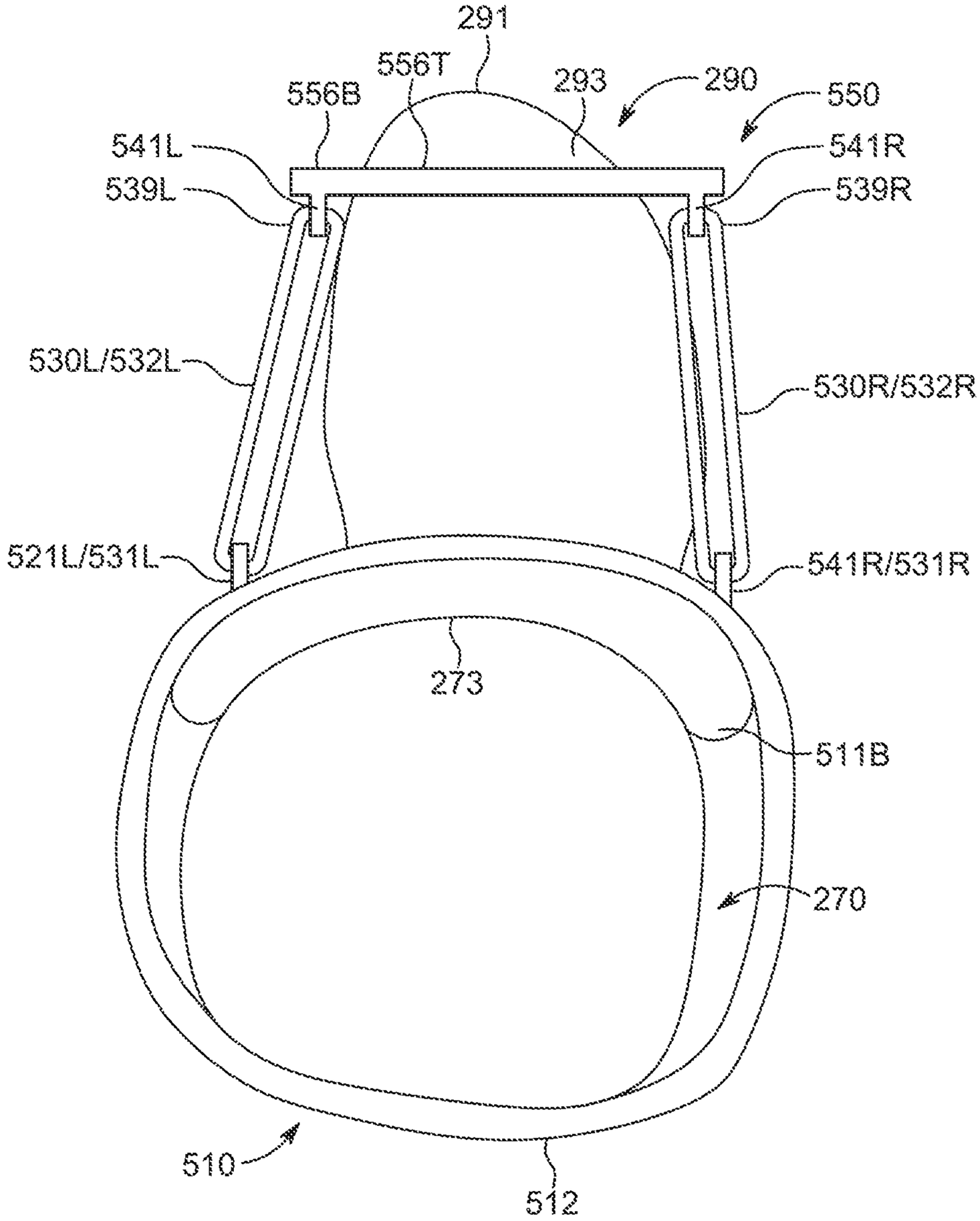


FIG. 17

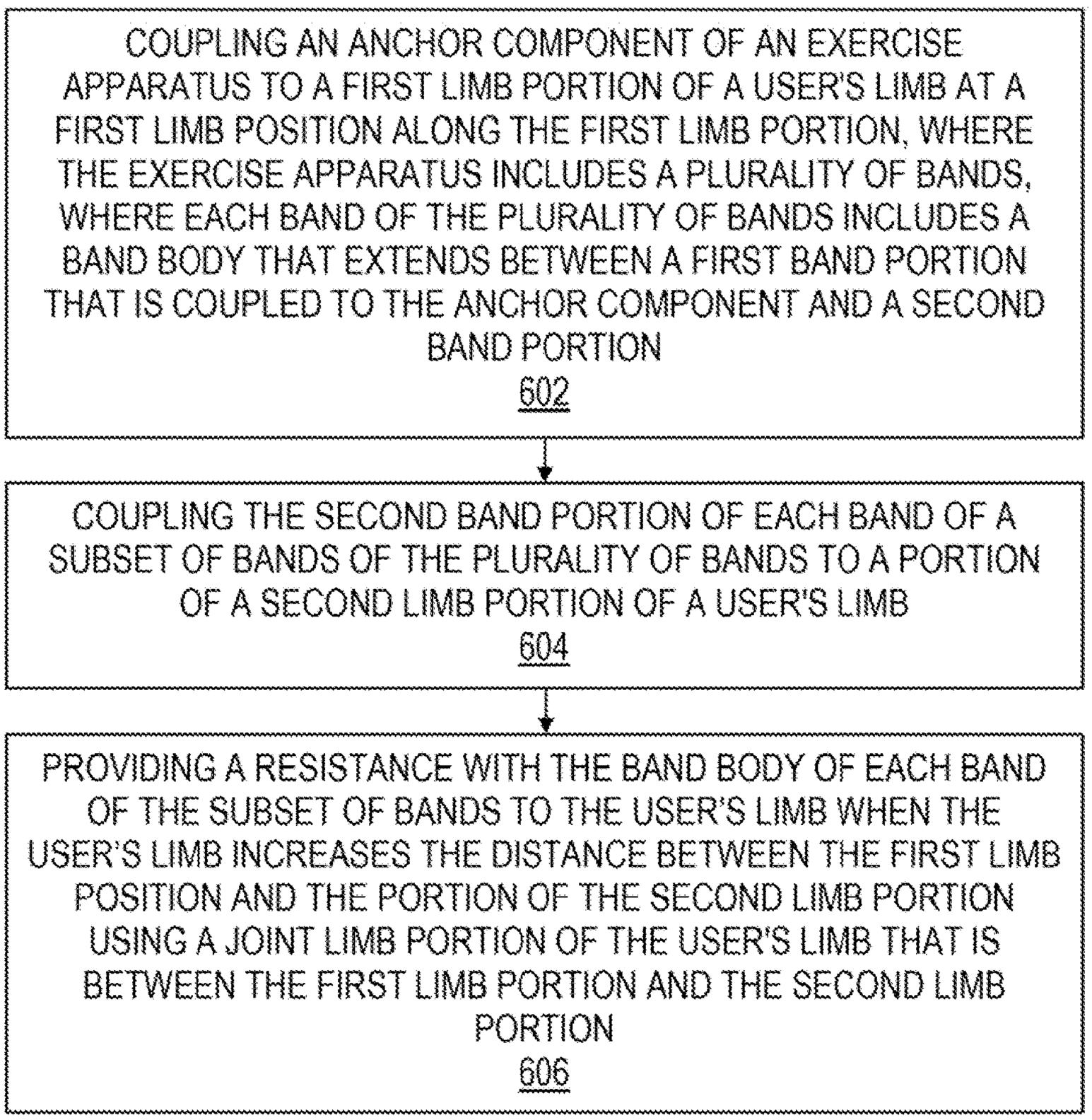

COUPLING AN ANCHOR COMPONENT OF AN EXERCISE APPARATUS TO A FIRST LIMB PORTION OF A USER'S LIMB AT A FIRST LIMB POSITION ALONG THE FIRST LIMB PORTION, WHERE THE EXERCISE APPARATUS INCLUDES A PLURALITY OF BANDS, WHERE EACH BAND OF THE PLURALITY OF BANDS INCLUDES A BAND BODY THAT EXTENDS BETWEEN A FIRST BAND PORTION THAT IS COUPLED TO THE ANCHOR COMPONENT AND A SECOND BAND PORTION
602
COUPLING THE SECOND BAND PORTION OF EACH BAND OF A SUBSET OF BANDS OF THE PLURALITY OF BANDS TO A PORTION OF A SECOND LIMB PORTION OF A USER'S LIMB
604
PROVIDING A RESISTANCE WITH THE BAND BODY OF EACH BAND OF THE SUBSET OF BANDS TO THE USER'S LIMB WHEN THE USER'S LIMB INCREASES THE DISTANCE BETWEEN THE FIRST LIMB POSITION AND THE PORTION OF THE SECOND LIMB PORTION USING A JOINT LIMB PORTION OF THE USER'S LIMB THAT IS BETWEEN THE FIRST LIMB PORTION AND THE SECOND LIMB PORTION
606
600

FIG. 18

APPARATUS AND METHODS FOR EXERCISING A LIMB OF A USER

TECHNICAL FIELD

This disclosure relates to apparatus and methods for exercising a limb of a user and, more particularly, to apparatus and methods for exercising a limb of a user with an elastic link extending between two portions of the limb.

BACKGROUND OF THE DISCLOSURE

Exercise is an important activity in many peoples' lives. However, conventional exercise equipment is bulky and oftentimes not portable, thereby making it difficult to use throughout the course of a user's day.

SUMMARY OF THE DISCLOSURE

This document describes apparatus and methods for exercising a limb of a user.

For example, apparatus for use on a user's leg with respect to a stationary surface, wherein the user's leg includes a cnemis, a foot, and an ankle joint that couples the cnemis to the foot, the apparatus may include an anchor component operative to be coupled to the cnemis at a first cnemis location along the length of the cnemis, a base component comprising a base body extending between a first base end and a second base end, the base body operative to be positioned between the foot and the stationary surface, an extender component comprising an extender body extending between a first extender portion that is coupled to the anchor component and a second extender portion that is coupled to the base component, and a link component comprising a link body extending between a first link portion that is operative to be coupled to the anchor component and a second link portion that is operative to be coupled to the base component. When the anchor component is coupled to the cnemis at the first cnemis location and the base body is positioned between the foot and the stationary surface and the first link portion is coupled to the anchor component and the second link portion is coupled to the base component, an elastic portion of the base body is operative to provide resistance when the foot attempts to push the second base end towards the stationary surface.

As another example, a method for exercising a user's limb using exercise apparatus that includes an anchor component and a plurality of bands, wherein each band of the plurality of bands includes a band body that extends between a first band portion that is coupled to the anchor component and a second band portion, wherein the user's limb includes a first limb portion, a second limb portion, and a joint limb portion between the first limb portion and the second limb portion, and wherein the method may include coupling the anchor component to the first limb portion at a first limb position along the first limb portion, coupling the second band portion of each band of a subset of bands of the plurality of bands to a portion of the second limb portion, and, after both of the couplings, providing a resistance with the band body of each band of the subset of bands to the user's limb when the user's limb increases the distance between the first limb position and the portion of the second limb portion using the joint limb portion.

As yet another example, apparatus may be provided for use on a user's limb that includes a first limb portion, a second limb portion, and a joint limb portion between the first limb portion and the second limb portion. The apparatus may include an anchor component operative to be coupled to the first limb portion at a first limb position along the first limb portion, and a link component including a link body extending between a first link portion and a second link portion. At least a portion of the first link portion is operative to be coupled to the anchor component, at least a portion of the second link portion is operative to be coupled to the second limb portion at a second limb position along the second limb portion, the link body includes an elastic portion extending between the at least a portion of the first link portion and the at least a portion of the second link portion, and, when the anchor component is coupled to the first limb portion at the first limb position and the at least a portion of the first link portion is coupled to the anchor component and the at least a portion of the second link portion is coupled to the second limb portion at the second limb position, the elastic portion is operative to provide resistance to the user's limb when the user's limb increases the distance between the first limb position and the second limb position using the joint limb portion.

This Summary is provided merely to summarize some example embodiments, so as to provide a basic understanding of some aspects of the subject matter described in this document. Accordingly, it will be appreciated that the features described in this Summary are merely examples and should not be construed to narrow the scope or spirit of the subject matter described herein in any way. Other features, aspects, and advantages of the subject matter described herein will become apparent from the following Detailed Description, Figures, and Claims.

BRIEF DESCRIPTION OF THE DRAWINGS

The discussion below makes reference to the following drawings, in which like reference characters may refer to like parts throughout, and in which:

FIG. **1** is a side elevational view of a limb of a user wearing an exercise apparatus, according to some embodiments;

FIG. **2** is a right, top, front perspective view of an exercise apparatus, in a first stage of use, according to some embodiments;

FIG. **3** is a left, top, front perspective view of the exercise apparatus of FIG. **2**, in the first stage of use of FIG. **2**, according to some embodiments;

FIG. **4** is a top view of the exercise apparatus of FIGS. **2** and **3**, in the first stage of use of FIGS. **2** and **3**, according to some embodiments;

FIG. **5** is a top, back perspective view of the exercise apparatus of FIGS. **2-4**, in the first stage of use of FIGS. **2-4**, according to some embodiments;

FIG. **6** is a top, front perspective view of the exercise apparatus of FIGS. **2-5**, in the first stage of use of FIGS. **2-5**, according to some embodiments;

FIG. **7** is a bottom view of the exercise apparatus of FIGS. **2-6**, in the first stage of use of FIGS. **2-6**, according to some embodiments;

FIG. **8** is a right side elevational view of the exercise apparatus of FIGS. **2-7**, but with additional features, and being worn by a user in a second stage of use, according to some embodiments;

FIG. **9** is a right side elevational view, similar to FIG. **8**, of the exercise apparatus of FIG. **8**, but being worn by the user in a third stage of use, according to some embodiments;

FIG. **10** is a right side elevational view, similar to FIGS. **8** and **9**, of the exercise apparatus of FIGS. **8** and **9**, but in a fourth stage of use, according to some embodiments;

FIG. **11** is a right side elevational view, similar to FIGS. **8-10**, of the exercise apparatus of FIGS. **8-10**, but in an alternative fourth stage of use, according to some embodiments;

FIG. **12** is a front elevational view of another exercise apparatus, in a second stage of use, similar to the stage of use of FIG. **8**, according to some embodiments;

FIG. **13** is a right side elevational view, similar to FIGS. **8-11**, of yet another exercise apparatus, in a second stage of use, similar to the stage of use of FIGS. **8** and **12**, according to some embodiments;

FIG. **14** is a front elevational view, similar to FIG. **12**, of the exercise apparatus of FIG. **13**, in the second stage of use of FIG. **13**, according to some embodiments;

FIG. **15** is a right side elevational view, similar to FIGS. **8-11** and **13**, of yet another exercise apparatus, in a second stage of use, similar to the stage of use of FIGS. **8** and **12-14**, according to some embodiments;

FIG. **16** is a front elevational view, similar to FIGS. **12** and **14**, of the exercise apparatus of FIG. **15**, in the second stage of use of FIG. **15**, according to some embodiments;

FIG. **17** is a top view, similar to FIG. **4**, of the exercise apparatus of FIGS. **15** and **16**, in the second stage of use of FIGS. **15** and **16**, according to some embodiments; and

FIG. **18** is a flowchart of an illustrative process for exercising a user's limb using exercise apparatus.

DETAILED DESCRIPTION OF THE DISCLOSURE

Exercise apparatus may be provided that is easy to use wherever a user may be and that is small enough to carry wherever a user may travel between uses. Such exercise apparatus may include one or more elastic links, each of which may be selectively coupled to both a first portion of a user's limb (e.g., a cnemis or shin of a leg) and a second portion of a user's limb (e.g., a foot of the leg) in order to provide resistance to the limb when the limb attempts to change the distance between the first and second portions of the limb (e.g., using an ankle joint, while the user may be sitting or standing). Different subsets of the elastic links may be coupled between the two limb portions to provide different magnitudes of resistance. When not in use, the apparatus may be reconfigured to reduce the size of the space that it occupies.

FIG. **1** is a side elevational view of a limb **160** of a user wearing an exercise apparatus **100**, according to some embodiments in a stage of use (e.g., a stage of use where the user may be exercising any suitable portion or portions (e.g., any muscle or muscles) of limb **160** through the use of worn exercise apparatus **100**). As shown in FIG. **1**, limb **160** may include a first limb portion **170** having a first limb body **172** that may extend between a distal end **171** and a joint end **179**, a second limb portion **190** having a second limb body **192** that may extend between a distal end **191** and a joint end **199**, and a joint limb portion **180** that may be positioned between first limb portion **170** and second limb portion **190** (e.g., between joint ends **179** and **199**) and/or that may couple first limb portion **170** to second limb portion **190**. Limb **160** may be any suitable limb of a user, such as an arm (e.g., a left arm or a right arm) or a leg (e.g., a left leg or a right leg) of a human user. When limb **160** is an arm of a user, joint limb portion **180** may be the wrist joint of the arm, while first limb portion **170** may be the forearm of the arm, and while second limb portion **190** may be the hand of the arm. Alternatively, when limb **160** is an arm of a user, joint limb portion **180** may be the elbow joint of the arm, while first limb portion **170** may be the upper arm of the arm, and while second limb portion **190** may be the forearm of the arm. Alternatively, when limb **160** is an arm of a user, joint limb portion **180** may include both the wrist joint and the elbow joint of the arm, while first limb portion **170** may be the upper arm of the arm, and while second limb portion **190** may be the hand of the arm. When limb **160** is a leg of a user, joint limb portion **180** may be the ankle joint of the leg, while first limb portion **170** may be the cnemis of the leg, and while second limb portion **190** may be the foot of the leg. Alternatively, when limb **160** is a leg of a user, joint limb portion **180** may be the knee joint of the leg, while first limb portion **170** may be the thigh of the leg, and while second limb portion **190** may be the cnemis of the leg. Alternatively, when limb **160** is a leg of a user, joint limb portion **180** may include both the ankle joint and the knee joint of the leg, while first limb portion **170** may be the thigh of the leg, and while second limb portion **190** may be the foot of the leg.

Moreover, as shown in FIG. **1**, exercise apparatus **100** may include a link component **130** operative to be coupled to an anchor component **110** and/or a base component **150**. Anchor component **110** may be operative to be coupled to first limb portion **170** at any suitable anchor position or first limb position **173** along the length of first limb portion **170** (e.g., at any suitable position between ends **171** and **179**). Additionally or alternatively, base component **150** may be operative to be coupled to second limb portion **190** at any suitable base position or second limb position **193** along the length of second limb portion **190** (e.g., at any suitable position between ends **191** and **199**). Anchor component **110** may include any suitable element or elements that may be operative to retain anchor component **110** at first limb position **173** along first limb portion **170** throughout the exercise use of apparatus **100** by limb **160** of the user, and/or base component **150** may include any suitable element or elements that may be operative to retain base component **150** at second limb position **193** along second limb portion **190** throughout the exercise use of apparatus **100** by limb **160**, where such suitable element or elements of anchor component **110** and/or of base component **150** may include, but are not limited to, one or more straps that may be secured about or otherwise to limb portion **170/190** using any suitable approach (e.g., a buckle, drawstring, phone lanyard, knot, snap fastener, hook and loop fastener (e.g., Velcro™), etc.), an elastic loop, at least a portion of an article of clothing (e.g., footwear (e.g., shoe, sandal, etc.), hand wear (e.g., glove, watch, etc.), etc.), and the like, which may provide a comfortably tight fit at least partially about or against limb portion **170/190**. Link component **130** may include a link body **132** extending between a first link portion **131** and a second link portion **139**. In some embodiments, first link portion **131** may be directly coupled to first limb portion **170** at first limb position **173** along first limb portion **170** (e.g., when apparatus **100** does not include an anchor component **110**). Alternatively, first link portion **131** may be coupled to first limb portion **170** at first limb position **173** via anchor component **110** when anchor component **110** is coupled to first limb portion **170** at first limb position **173**, where, for example, first link portion **131** may be coupled to anchor component **110** via any suitable link anchor retention mechanism(s) **121**. Additionally or alternatively, in some embodiments, second link portion **139** may be directly coupled to second limb portion **190** at second limb position **193** along second limb portion **190** (e.g., when apparatus **100** does not include a base component **150**). Alternatively, second link portion **139** may be coupled to second limb portion **190** at second limb position **193** via base component

150 when base component 150 is coupled to second limb portion 190 at second limb position 193, where, for example, second link portion 139 may be coupled to base component 150 via any suitable link base retention mechanism(s) 141.

Link component 130 may include at least one elastic band. In some embodiments, as described below in more detail with respect to one or more of FIGS. 2-17, the elastic band may be a closed loop, whereby first link portion 131 may be a first portion of the closed loop that may be operative to loop around first limb portion 170 for coupling to first limb portion 170 at position 173 or whereby first link portion 131 may be coupled to anchor component 110 via any suitable mechanism 121 (e.g., a first portion of the closed loop may pass through a closed ring or an at least partially closed ring mechanism 121 of anchor component 110), and/or whereby second link portion 139 may be a second portion of the closed loop that may be operative to loop around second limb portion 190 for coupling to second limb portion 190 at position 193 or whereby second link portion 139 may be coupled to base component 150 via any suitable mechanism 141 (e.g., a second portion of the closed loop may pass through a closed ring or an at least partially closed ring mechanism 141 or by looping about a portion of a hook of base component 150). In other embodiments, as described below in more detail with respect to one or more of FIGS. 2-17, the elastic band may not be a closed loop but may be an elastic band that extends between a first band end at first link portion 131 and a second band end at second link portion 139 that is distinct from the first band end, whereby first link portion 131 may be fixedly or removably coupled to anchor component 110 via any suitable mechanism 121 (e.g., a first end of the elastic band may be held with respect to a passageway mechanism 121 that is smaller than the first end), and/or whereby second link portion 139 may be fixedly or removably coupled to base component 150 via any suitable mechanism 141 (e.g., a second end of the elastic band may be held with respect to a passageway mechanism 141 that is smaller than the first end). Moreover, as described below in more detail with respect to one or more of FIGS. 2-17, link component 130 may include any suitable number of such bands, each of which may be of any suitable type, whereby varying the number of bands linking first limb portion 170 and second limb portion 190 may vary the magnitude of resistance that link component 130 may be operative to provide to an exercising limb 160 wearing apparatus 100.

At least a portion 134 of link body 132 or the entirety of link body 132 may be elastic (e.g., stretchy, elasticized, stretchable, springy, flexible, pliant, pliable, supple, yielding, resilient, etc.) or configured as any suitable material to provide any suitable elasticity (e.g., cord, tape, fabric (e.g., with rubber), etc.), such that link body 132 may be operative to have a tendency to return to an original shape after being deformed (e.g., contracted, dilated, distorted, expanded, stretched, etc.) and/or provide a resistance while being deformed. Therefore, a length L of link body 132 between first link portion 131 and second link portion 139 may be operative to vary between an original or relaxed length when no external forces are applied to link body 132 and a deformed or stressed length when any suitable external forces are applied to link body 132, where such a deformed or stressed length may be greater than or less than such an original or relaxed length (e.g., greater than if link body 132 is an elastic band whose ends 131 and 139 are stretched apart from one another beyond their original or relaxed distance (e.g., with tensile or pulling force(s)), or less than if link body 132 is an elastic spring whose ends 131 and 139 are forced closer together than their original or relaxed distance (e.g., with compressive or pushing force(s))). In some embodiments, when the user wearing apparatus 100 exercises (e.g., using joint limb portion 180) with a particular exercise motion such that an angle α formed between first limb body 172 and second limb body 192 may be increased in the direction of arrows F and such that second limb position 193 of second limb portion 190 may be pushed away from first limb position 173 of first limb portion 170 and such that link base retention mechanism(s) 141 may be pushed away from link anchor retention mechanism(s) 121 (e.g., in the direction of arrows N) to deform link body 132 (e.g., a rubber band), length L of link body 132 may likewise increase to a deformed or stressed length that may be greater than its original or relaxed length, whereby such deformation of link body 132 may be operative to provide a resistance to such exercising limb 160 of the user. Conversely, in such embodiments, when the user wearing apparatus 100 exercises (e.g., using joint limb portion 180) with an opposite exercise motion such that angle α formed between first limb body 172 and second limb body 192 may be decreased in the direction of arrows O and such that second limb position 193 of second limb portion 190 may be pulled towards first limb position 173 of first limb portion 170 and such that link base retention mechanism(s) 141 may be pulled towards link anchor retention mechanism(s) 121 (e.g., in the direction of arrows E) to underform link body 132, length L of link body 132 may likewise decrease to its original or relaxed length that may be less than its deformed or stressed length, whereby such return of link body 132 may be operative not to provide any resistance to such an exercising limb 160 of the user. Alternatively or additionally, in other embodiments, when the user wearing apparatus 100 exercises (e.g., using joint limb portion 180) with a particular exercise motion such that an angle α formed between first limb body 172 and second limb body 192 may be decreased in the direction of arrows O and such that second limb position 193 of second limb portion 190 may be pushed towards first limb position 173 of first limb portion 170 (e.g., in the direction of arrows E) to deform link body 132 (e.g., a compression spring), length L of link body 132 may likewise decrease to a deformed or stressed length that may be less than its original or relaxed length, whereby such deformation of link body 132 may be operative to provide a resistance to such exercising limb 160 of the user. Conversely, in such embodiments, when the user wearing apparatus 100 exercises (e.g., using joint limb portion 180) with an opposite exercise motion such that angle α formed between first limb body 172 and second limb body 192 may be increased in the direction of arrows F and such that second limb position 193 of second limb portion 190 may be pulled away from first limb position 173 of first limb portion 170 (e.g., in the direction of arrows N) to underform link body 132, length L of link body 132 may likewise increase to its original or relaxed length that may be greater than its deformed or stressed length, whereby such return of link body 132 may be operative not to provide any resistance to such an exercising limb 160 of the user. Therefore, coupling of each one of first link portion 131 and second link portion 139 to respective positions 173 and 193 of limb portions 170 and 190, either directly or via respective components 110 and 150, the elasticity of link body 132 may repetitively alternate the provisioning of resistance to limb 160 during repetitive exercise of limb 160 that repetitively increases and decreases the size of angle α.

FIGS. 2-11 show an exercise apparatus 200, which may be at least partially similar to apparatus 100, in various

stages of use with respect to a user (e.g., a limb **260** of a user of FIGS. **8** and **9**). FIG. **2** is a right, top, front perspective view of exercise apparatus **200**, in a first stage of use (e.g., a stage of use just prior to apparatus **200** being worn by user limb **260** for exercising), FIG. **3** is a left, top, front perspective view of exercise apparatus **200**, in the first stage of use of FIG. **2**, FIG. **4** is a top view of exercise apparatus **200**, in the first stage of use of FIGS. **2** and **3**, FIG. **5** is a top, back perspective view of exercise apparatus **200**, in the first stage of use of FIGS. **2-4**, FIG. **6** is a top, front perspective view of exercise apparatus **200**, in the first stage of use of FIGS. **2-5**, FIG. **7** is a bottom view of exercise apparatus **200**, in the first stage of use of FIGS. **2-6**, FIG. **8** is a right side elevational view of exercise apparatus **200**, but with additional features (e.g., components **221**C, **232**C, and **241**C, as described below), in a second stage of use (e.g., one stage of use where user limb **260** may be wearing exercise apparatus **200** for exercising any suitable portion or portions (e.g., any muscle or muscles) of limb **260** through the use of worn exercise apparatus **200**), FIG. **9** is a right side elevational view, similar to FIG. **8**, of exercise apparatus **200**, in a third stage of use (e.g., another stage of use where user limb **260** may be wearing exercise apparatus **200** for exercising any suitable portion or portions (e.g., any muscle or muscles) of limb **260** through the use of worn exercise apparatus **200**), FIG. **10** is a right side elevational view, similar to FIGS. **8** and **9**, of exercise apparatus **200**, in a fourth stage of use (e.g., a stage of use for compact storage of apparatus **200** after apparatus **200** is done being worn by user limb **260** for exercising), and FIG. **11** is a right side elevational view, similar to FIGS. **8-10**, of exercise apparatus **200**, in an alternative fourth stage of use (e.g., an alternative stage of use for compact storage of apparatus **200** after apparatus **200** is done being worn by user limb **260** for exercising).

FIGS. **2-7** show exercise apparatus **200** in a first stage of use (e.g., a stage of use just prior to apparatus **200** being worn by user limb **260** of FIGS. **8** and **9** for exercising). As shown, apparatus **200** may include an anchor component **210**, a base component **250**, and a link component **230**. Anchor component **210** may be at least partially similar to anchor component **110** of apparatus **100** and may include an anchor body **211** that may be operative to extend along at least a portion of user limb **260** when anchor component **210** is coupled thereto (e.g., along at least a portion of first limb portion **270**, as shown in FIGS. **8** and **9**). Additionally or alternatively, anchor component **210** may also include at least one limb attachment component, such as upper limb attachment component **212**T and a lower limb attachment feature **212**B, that may be operative to couple anchor component **210** (e.g., anchor body **211**) to user limb **260**. For example, as shown in FIGS. **8** and **9**, upper limb attachment component **212**T may be any suitable mechanism, such as a strap, that may be operative to couple anchor component **210** (e.g., anchor body **211**) to user limb **260** (e.g., at location **273** of first limb portion **270**), while lower limb attachment component **212**B may also be the same type or any other suitable type of mechanism that may be operative to couple anchor component **210** to user limb **260** (e.g., such that components **212**T and **212**B may interact with different areas of limb portion **270** for a more robust coupling). As shown in FIG. **4**, anchor body **211** may include a front anchor body portion **211***f*, to which portions of each limb attachment component may be coupled, and a back anchor body portion **211***b*, which may provide padding for comfort to user limb **260** when anchor component **210** is coupled thereto for being worn by the user.

Base component **250** may be at least partially similar to base component **150** of apparatus **100** and may include a base body **255** with top and bottom base surfaces **256**T and **256**B as well as left and right base side surfaces **254**L and **254**R, each of which may generally extend between a back base end **252**B and a front base end **252**F for forming the structure of base body **255**. As shown in FIGS. **7-9** and **11**, a groove or channel **251** may be provided in base body **255** through bottom base surface **256**B (e.g., across a portion of bottom base surface **256**B extending between a portion of left base side surface **254**L and right base side surface **254**R). Base body **255** may be of any suitable structure for enabling a user to exercise with apparatus **200**, as described below in more detail. However, in the embodiments illustrated in FIGS. **2-11**, base body **255** may include a structure similar to at least a portion or the entirety of a sole of footwear (e.g., the base of a flip-flop) upon which a user may comfortably position lower limb portion **290** of limb **260** (e.g., a foot of a leg).

In some embodiments, as shown, apparatus **200** may include at least one support component, such as a left support component **218**L and a right support component **218**R, which may extend between base component **250** and anchor component **210** for preventing anchor component **210** from moving with respect to first limb position **273** when anchor component **210** is coupled to first limb portion **270**. For example, as shown, left support component **218**L may include a support body **215**L that may extend between a top support body end **213**L and a bottom support body end **217**L, where top support body end **213**L may be coupled to any suitable portion of anchor component **210** (e.g., to front anchor body portion **211***f*) via a top support coupling mechanism **214**L, and where bottom support body end **217**L may be coupled to any suitable portion of base component **250** (e.g., to left base side surface **254**L) via a bottom support coupling mechanism **216**L. Although the length of support body **215**L between top support body end **213**L and bottom support body end **217**L may be adjustable (e.g., by a user) to any suitable length to dictate the distance between base component **250** and anchor component **210** when apparatus **200** is worn by the user, such a length may be fixed during user exercise with apparatus **200** such that support body **215**L may prevent anchor component **210** from sliding up or down along first limb portion **270** (e.g., away from first limb position **273**). Alternatively or additionally, as shown, right support component **218**R may include a support body **215**R that may extend between a top support body end **213**R and a bottom support body end **217**R, where top support body end **213**R may be coupled to any suitable portion of anchor component **210** (e.g., to front anchor body portion **2110** via a top support coupling mechanism **214**R, and where bottom support body end **217**R may be coupled to any suitable portion of base component **250** (e.g., to right base side surface **254**R) via a bottom support coupling mechanism **216**R. Although the length of support body **215**R between top support body end **213**R and bottom support body end **217**R may be adjustable (e.g., by a user) to any suitable length to dictate the distance between base component **250** and anchor component **210** when apparatus **200** is worn by the user, such a length may be fixed during user exercise with apparatus **200** such that support body **215**R may prevent anchor component **210** from sliding up or down along first limb portion **270** (e.g., away from first limb position **273**). As shown, apparatus **200** may include two support components, such as left support component **218**L and right support component **218**R, that may be positioned on opposite sides of limb **260** when apparatus **200** is worn

by the user, thereby providing suitable support on opposite sides of anchor component **210**. Alternatively, any other suitable number of support components may be provided, such as a single support component that may extend between base component **250** (e.g., at back base end **252**B) and anchor component **210** (e.g., at a limb attachment component).

Each one of support coupling mechanisms **214**L, **214**R, **216**L, and **216**R may be any suitable coupling mechanism, such as a coupling mechanism that fixes the orientation of a support body with respect to anchor component **210** and/or base component **250**, or a coupling mechanism that enables rotation of the support body with respect to anchor component **210** and/or base component **250**. For example, each one of support coupling mechanisms **214**L and **214**R may enable anchor component **210** to rotate about such support coupling mechanisms for enabling more comfortable use of apparatus **200** by a user during exercise (e.g., mechanism **214**L may rotatably couple anchor component **210** to left support component **218**L and mechanism **214**R may rotatably couple anchor component **210** to right support component **218**R). Additionally or alternatively, for example, as shown in FIG. **10**, each one of support coupling mechanisms **216**L and **216**R may enable base component **250** to rotate about such support coupling mechanisms in the direction of arrow RI from the first stage of use of FIGS. **2-7** to the fourth stage of use of FIG. **10** (e.g., mechanism **216**L may rotatably couple base component **250** to left support component **218**L and mechanism **216**R may rotatably couple base component **250** to right support component **218**R), whereby base component **250** may be proximate, adjacent, or even contacting anchor component **210** (e.g., front base end **252**F may be operative to contact portion **211**E of support body **211** of anchor component **210**), whereby such a fourth stage may enable the overall space occupied by apparatus **200** to be reduced (e.g., for easy storage when not being worn by the user). In some embodiments, a limb attachment component (e.g., limb attachment component **212**T and/or limb attachment component **212**B) may be operative to retain base component **250** at such an orientation of FIG. **10** (e.g., similarly to how such attachment components may be operative to retain a cross-section of a user's limb). Additionally or alternatively, as another example, as shown in FIG. **11**, each one of support coupling mechanisms **216**L and **216**R may enable base component **250** to rotate about such support coupling mechanisms in the direction of arrow R**2** from the first stage of use of FIGS. **2-7** to the fourth stage of use of FIG. **11**, whereby base component **250** may be proximate, adjacent, or even contacting anchor component **210** (e.g., top base surface **256**T may be operative to contact portion **211**F of support body **211** of anchor component **210**), whereby such a fourth stage may enable the overall space occupied by apparatus **200** to be reduced (e.g., for easy storage when not being worn by the user). In some embodiments, a limb attachment component (e.g., a link body, such as link body **232**R, **232**L, and/or **232**C, as described below in more detail, may be operative to retain base component **250** at such an orientation of FIG. **11**.

Link component **230** of apparatus **200** may be at least partially similar to link component **130** of apparatus **100** and may include at least one link body (e.g., left link body **232**L, right link body **232**R, and/or center link body **232**C) extending between a first link portion (e.g., first left link portion **231**L, first right link portion **231**R, and/or first center link portion **231**C, respectively) and a second link portion (e.g., second left link portion **239**L, second right link portion **239**R, and/or second center link portion **239**C, respectively). At least a portion of each link body may include an elastic portion, for example, similar to elastic portion **134** of apparatus **100**. As shown, one, some, or each first link portion (e.g., first left link portion **231**L, first right link portion **231**R, and/or first center link portion **231**C) may be coupled to first limb portion **270** of user limb **260** at or about first limb position **273** via anchor component **210** when anchor component **210** is coupled to first limb portion **270** at or about first limb position **273**, where, for example, a first link portion may be coupled to anchor component **210** via any suitable link anchor retention mechanism(s) of anchor component **210** (e.g., left link anchor retention mechanism **221**L, right link anchor retention mechanism **221**R, and/or center link anchor retention mechanism **221**C). For example, as shown in FIGS. **2-11**, each link body **232** of link component **230** may be a closed loop (e.g., an at least partially elastic or deformable loop, such as a rubber band or other suitable material(s)), and each link anchor retention mechanism of anchor component **210** (e.g., link anchor retention mechanisms **221**L/**221**R/**221**C) may be a closed ring (e.g., a metal or plastic or otherwise structurally rigid ring) through which a respective first link portion of a respective link body may be passed (e.g., by a manufacturer) for securing (e.g., unremovably or fixedly coupling) each link body of link component **230** to anchor component **210**. In other embodiments, as described below with respect to FIGS. **12-17**, one or more link bodies may not be a closed loop and/or one or more anchor retention mechanisms may not be a closed ring such that a link body may or may not be removably coupled to an anchor component. Additionally or alternatively, in some embodiments, one, some, or each second link portion (e.g., second left link portion **239**L, second right link portion **239**R, and/or second center link portion **239**C, respectively) may be coupled to second limb portion **290** at or about second limb position **293** via base component **250** when base component **250** is coupled to second limb portion **290** at or about second limb position **293**, where, for example, a second link portion may be coupled to base component **250** via any suitable link base retention mechanism(s) of base component **250** (e.g., left link base retention mechanism **241**L, right link base retention mechanism **241**R, and/or center link base retention mechanism **241**C). For example, as shown in FIGS. **2-11**, each link body **232** of link component **230** may be a closed loop, and each link base retention mechanism of base component **250** (e.g., link base retention mechanisms **241**L/**241**R/**241**C) may be a hook with a free end (e.g., a metal or plastic or otherwise structurally rigid feature with an open end) about which a respective second link portion of a respective link body may be looped (e.g., by a user) for coupling (e.g., removably or temporarily coupling) each link body of link component **230** to base component **250**. Alternatively, in some embodiments (e.g., as described in more detail below with respect to apparatus **300** of FIG. **12**), second link portion **239**C of link body **232**C may be looped about base body **255** and coupled to bottom base surface **256**B (e.g., within groove **251**). In other embodiments, as described below with respect to FIGS. **12-17**, one or more link bodies may not be a closed loop and/or one or more base retention mechanisms may not be a hook such that a link body may or may not be removably coupled to a base component. Although FIGS. **2-7** may show multiple (e.g., three) distinct closed loops provided by each of left link body **232**L and right link body **232**R, such that none, one, some, or all of the distinct loops may be removably coupled to base component **250** for varying the resistance that may be provided by apparatus **200** to user limb **260** during exercise, FIGS. **8-11** may only

show one such loop provided by each of left link body **232**L and right link body **232**R for the sake of clarity.

As shown in FIGS. **8** and **9**, user limb **260** may be similar to user limb **160** and may include a first limb portion **270** having a first limb body **272** that may extend between a distal end **271** and a joint end **279**, a second limb portion **290** having a second limb body **292** that may extend between a distal end **291** and a joint end **299**, and a joint limb portion **280** that may be positioned between first limb portion **270** and second limb portion **290** (e.g., between joint ends **279** and **299**) and/or that may couple first limb portion **270** to second limb portion **290**. Limb **260** may be any suitable limb of a user, such as a leg of a user, as shown, whereby joint limb portion **280** may be the ankle joint of the leg, while first limb portion **270** may be the cnemis of the leg, and while second limb portion **290** may be the foot of the leg. At some point, a user may couple anchor component **210** to first limb portion **270** at first limb position **273** (e.g., by using one or both of limb attachment components **212**T and **212**B and/or one or both support components **218**L and **218**R) and, before or during or after such anchor-limb coupling, the user may position second limb portion **290** against base component **250** (e.g., by engaging at least a portion of top base surface **256**T with at least a portion of the bottom of the user's foot or limb portion **290**). As shown in FIG. **8**, for example, such anchor-limb coupling and such base-limb coupling may together result in user's limb **260** properly wearing apparatus **200** for use in exercising. Prior to, during, or after such anchor-limb coupling and such base-limb coupling, one or more link bodies of link component **230** may be coupled to both anchor component **210** at or about position **273** and base component **250** at or about position **293**. For example, as shown in FIGS. **8** and **9**, first right link portion **231**R of right link body **232**R may be coupled to anchor component **210** via right link anchor retention mechanism **221**R and second right link portion **239**R of right link body **232**R may be coupled to base component **250** via right link base retention mechanism **241**R, and first center link portion **2310** of center link body **232**C may be coupled to anchor component **210** via center link anchor retention mechanism **221**C and second center link portion **239**C of center link body **232**C may be coupled to base component **250** via center link base retention mechanism **241**C. Although not shown in FIGS. **8** and **9**, first left link portion **231**L of left link body **232**L may be coupled to anchor component **210** via left link anchor retention mechanism **221**L and second left link portion **239**L of left link body **232**L may be coupled to base component **250** via left link base retention mechanism **241**L when more resistance is desired for the exercise, otherwise at least one link portion of left link body **232**L may not be coupled to anchor component **210** and/or base component **250** when less resistance is desired for the exercise.

The elasticity (e.g., elastic modulus) of each link body of link component **230** may be operative to provide at least some resistance to user limb **260** when that link body is coupled to both anchor component **210** and base component **250** and when user limb **260** is at the second stage of use of apparatus **200** of FIG. **8** (e.g., at a stage when anchor component **210** is coupled to limb portion **270**, when base component **250** is coupled to (e.g., interfacing with) limb portion **290**, and when limb **260** is exerting a suitable force on apparatus **200** to maintain or increase the distance between two portions of that link body extending between anchor component **210** and base component **250**). For example, as shown in FIG. **8**, limb **260** may be wearing apparatus **200** and may be exercising by exerting a force on apparatus **200** (e.g., using joint limb portion **280**) for at least maintaining or increasing the distance between first center link portion **231**C of center link body **232**C and second center link portion **239**C of center link body **232**C (e.g., the distance between center link anchor retention mechanism **221**C and center link base retention mechanism **241**C) such that the elasticity of center link body **232**C may be operative to provide a resistance to limb **260** (e.g., as described above with respect to arrows F and N of FIG. **1**). Additionally or alternatively, as shown in FIG. **8**, limb **260** may be wearing apparatus **200** and may be exercising by exerting a force on apparatus **200** (e.g., using joint limb portion **280**) for at least maintaining or increasing the distance between first right link portion **231**R of right link body **232**R and second right link portion **239**R of right link body **232**R (e.g., the distance between right link anchor retention mechanism **221**R and right link base retention mechanism **241**R) such that the elasticity of right link body **232**R may be operative to provide a resistance to limb **260** (e.g., as described above with respect to arrows F and N of FIG. **1**). Each body portion of link component **230** may have a different elasticity or the same elasticity for providing the different or same resistance to an exercising limb. In some embodiments, as shown in FIG. **8**, such a second stage of use of apparatus **200** may be enabled when user limb **260** holds at least a portion or all of bottom base surface **256**B against a stable or stationary surface S (e.g., the ground), which may enable apparatus **200** to be used while the user is standing or sitting with its foot on the ground.

A third stage of use of apparatus **200** may be shown in FIG. **9**, whereby, after the second stage of use of FIG. **8**, user limb **260** may continue to exercise by reducing a force exerted on apparatus **200** (e.g., using joint limb portion **280**). For example, such a reduction in user limb force may decrease the distance between first center link portion **231**C of center link body **232**C and second center link portion **239**C of center link body **232**C (e.g., the distance between center link anchor retention mechanism **221**C and center link base retention mechanism **241**C), whereby the elasticity of center link body **232**C may be operative to at least partially decrease that distance due to the reduction in user limb force (e.g., as described above with respect to arrows E and O of FIG. **1**), whereby link body **232**C may at least partially underform from its deformed or stressed length CL**2** of the second stage of FIG. **8** to a less deformed or less stressed (e.g., shorter) length CL**3** of the third stage of FIG. **9**, which may or may not be the original or relaxed length of link body **232**C. Additionally or alternatively, such a reduction in user limb force may decrease the distance between first right link portion **231**R of right link body **232**R and second right link portion **239**R of right link body **232**R (e.g., the distance between right link anchor retention mechanism **221**R and right link base retention mechanism **241**R), whereby the elasticity of right link body **232**R may be operative to at least partially decrease that distance due to the reduction in user limb force (e.g., as described above with respect to arrows E and O of FIG. **1**), whereby link body **232**R may at least partially underform from its deformed or stressed length of the second stage of FIG. **8** to a less deformed or less stressed (e.g., shorter) length of the third stage of FIG. **9**, which may or may not be the original or relaxed length of link body **232**R.

After reaching such a third stage of use (e.g., of FIG. **9**), limb **260** may continue to exercise by exerting a suitable force on apparatus **200** to return to the second stage of use (e.g., of FIG. **8**), whereby each repetition of moving apparatus **200** between its second and third stages of use may

further strengthen one or more portions (e.g., muscles) of limb **260**. In some embodiments, as shown in FIG. **9**, such a third stage of use of apparatus **200** may be enabled when user limb **260** holds a portion of bottom base surface **256**B (e.g., proximate end **299**) and/or a portion of second limb portion **290** itself (e.g., end **299**) against a stable or stationary surface S (e.g., the ground), which may enable apparatus **200** to be moved between its second and third stages of use while the user is standing or sitting with at least a portion of its foot (e.g., a heel of the foot at end **299**) always on the ground (e.g., directly or via base component **250**). In such embodiments, a distance D created between surface S and base component **250** and/or second limb portion **290** (e.g., at or near position **293**, such as a ball of a user's foot) at the third stage of use may be any suitable distance, which may vary based on the resistance provided by link component **230** and/or based on the amount of exercise desired by the user. In other embodiments, surface S may be an imaginary surface in space or may not be considered at all, whereby second limb portion **290** may be held and moved within open space when apparatus **200** is moved between its second and third stages during exercise of limb **260**. It is to be understood that, in some embodiments, each one of support coupling mechanisms **216**L and **216**R may enable base component **250** to rotate about such support coupling mechanisms in the direction of arrow R**3** from the second stage of use of FIG. **8** to the third stage of use of FIG. **9** and/or in the direction of arrow R**4** from the third stage of use of FIG. **9** to the second stage of use of FIG. **8**. Alternatively or additionally, at least a portion of base component **250** may be flexible for enabling at least a portion of such movement of base component **250** (e.g., at least proximate mechanism(s) **241**R and/or **241**C) such that apparatus **200** may be moved between its second and third stages. Although a transition between the third stage of use of FIG. **9** and the second stage of use of FIG. **8** has been described to include user limb **260** exerting a force on apparatus **200** for maintaining or increasing the distance between a link anchor retention mechanism and a link base retention mechanism associated with a particular link body of link component **230** (e.g., against a resistance of that link body) and although a transition between the second stage of use of FIG. **8** and the third stage of use of FIG. **9** has been described to include user limb **260** reducing the magnitude of such a force exerted on apparatus **200** for decreasing the distance between the link anchor retention mechanism and the link base retention mechanism associated with that particular link body of link component **230** (e.g., leveraging a resistance of that link body), where such a particular link body may include an elastic portion that provides resistance when its length is stretched (e.g., increased from CL**3** to CL**2**) from its original or relaxed length to a deformed or stressed length (e.g., a rubber band), it is to be understood that in other embodiments, a transition between the second stage of use of FIG. **8** and the third stage of use of FIG. **9** may include a user limb **260** exerting a force on apparatus **200** for maintaining or decreasing the distance between a link anchor retention mechanism and a link base retention mechanism associated with a particular link body of link component **230** (e.g., against a resistance of that link body) and a transition between the third stage of use of FIG. **9** and the second stage of use of FIG. **8** may include user limb **260** reducing the magnitude of such a force exerted on apparatus **200** for increasing the distance between the link anchor retention mechanism and the link base retention mechanism associated with that particular link body of link component **230** (e.g., leveraging a resistance of that link body), where such a particular link body may include an elastic portion that provides resistance when its length is compressed (e.g., decreased from CL**2** to CL**3**) from its original or relaxed length to a deformed or stressed length (e.g., a compression spring).

FIG. **12** shows a front elevational view of another exercise apparatus **300** worn by user limb **260**, in a second stage of use, similar to the stage of use of FIG. **8**. Apparatus **300** of FIG. **12** may be similar to apparatus **200** of FIGS. **2-11** but may not include any support components but may include a link body looped underneath a portion of a base body. Apparatus **300** of FIG. **12** may include similar components to apparatus **200** of FIGS. **2-11**, with components of apparatus **300** of FIG. **12** being labeled with "3xx" reference labels that may correspond to the "2xx" reference labels of the labeled components of apparatus **200** of FIGS. **2-11**, where differences therebetween may be described below.

As shown, apparatus **300** may include an anchor component **310**, a base component **350**, and a link component **330**. Anchor component **310** may include an anchor body **311** that may be operative to extend along at least a portion of user limb **260** when anchor component **310** is coupled thereto (e.g., along at least a portion of first limb portion **270**). Additionally or alternatively, anchor component **310** may also include at least one limb attachment component, such as upper limb attachment component **312**T and a lower limb attachment feature **312**B, that may be operative to couple anchor component **310** (e.g., anchor body **311**) to user limb **260** (e.g., at location **273** of first limb portion **270**).

Base component **350** may include a base body **355** with top and bottom base surfaces **356**T and **256**B as well as left and right base side surfaces **354**L and **354**R, each of which may generally extend between a back base end and a front base end **352**F for forming the structure of base body **355**. A groove or channel **351** may be provided in base body **355** through bottom base surface **356**B (e.g., across a portion of bottom base surface **356**B extending between a portion of left base side surface **354**L and right base side surface **354**R). Base body **355** may be of any suitable structure for enabling a user to exercise with apparatus **300**, as described below in more detail. However, in the embodiment illustrated in FIG. **12**, base body **355** may include a structure similar to at least a portion or the entirety of a sole of footwear (e.g., the base of a flip-flop) upon which a user may comfortably position lower limb portion **290** of limb **260** (e.g., a foot of a leg). Although not shown in FIG. **12**, apparatus **300** may or may not include at least one support component, which may extend between base component **350** and anchor component **310** for preventing anchor component **310** from moving with respect to first limb position **273** when anchor component **310** is coupled to first limb portion **270** (e.g., similar to left support component **218**L and right support component **218**R of apparatus **200**).

Link component **330** of apparatus **300** may include at least one link body (e.g., right-left link body **332**RL and/or center link body **332**C) extending between a first link portion (e.g., first right-left link portion **331**R and/or first center link portion **331**C, respectively) and a second link portion (e.g., second right-left link portion **331**L and/or second center link portion **339**C, respectively). At least a portion of each link body may include an elastic portion, for example, similar to elastic portion **134** of apparatus **100**. As shown, one, some, or each link portion (e.g., first right-left link portion **331**R, first right-left link portion **331**L, and/or first center link portion **331**C) may be coupled to first limb portion **270** of user limb **260** at or about first limb position **273** via anchor component **310** when anchor component **310**

is coupled to first limb portion **270** at or about first limb position **273**, where, for example, a link portion may be coupled to anchor component **310** via any suitable link anchor retention mechanism(s) of anchor component **310** (e.g., left link anchor retention mechanism **321**L, right link anchor retention mechanism **321**R, and/or center link anchor retention mechanism **321**C). For example, as shown in FIG. **12**, link body **332**C may be a closed loop (e.g., an at least partially elastic or deformable loop, such as a rubber band or other suitable material(s)), and associated link anchor retention mechanism **321**C may be a closed ring (e.g., a metal or plastic or otherwise structurally rigid ring) through which first center link portion **331**C of link body **332**C may be passed (e.g., by a manufacturer) for securing (e.g., unremovably or fixedly coupling) link body **332**C of link component **330** to anchor component **310**. As another example, as shown in FIG. **12**, link body **332**RL may not be a closed loop but may instead be a segment (e.g., an at least partially elastic or deformable segment, such as a non-looped rubber band or other suitable material(s)) extending between free end link portions **331**R and **331**L, and associated link anchor retention mechanisms **321**R and **321**L may be closed rings with a hollow having a cross-sectional area less than that of respective ends **331**R/**331**L and through which link body **332**RL may be passed (e.g., by a manufacturer) for securing (e.g., unremovably or fixedly coupling) link body **332**RL of link component **330** to anchor component **310**. Additionally or alternatively, in some embodiments, another portion of one, some, or each link body (e.g., second right-left link portion **339**RL and/or second center link portion **339**C, respectively) may be coupled to second limb portion **290** at or about second limb position **293** via base component **350** when base component **350** is coupled to second limb portion **290** at or about second limb position **293**, where, for example, a second link portion may be coupled to base component **350** via any suitable link base retention mechanism(s) of base component **350**. For example, as shown in FIG. **12**, center link body **332**C of link component **330** may be a closed loop, and a link base retention mechanism **341**C of base component **350** may be a hook with a free end (e.g., a metal or plastic or otherwise structurally rigid feature with an open end) about which a respective second center link portion **339**C of link body **332**C may be looped (e.g., by a user) for coupling (e.g., removably or temporarily coupling) link body **332**C of link component **330** to base component **350**. As another example, as shown in FIG. **12**, right-left link body **332**RL of link component **330** may be a segment, and a link base retention mechanism may be provided by channel **351** about which second right-left link portion **339**RL of link body **332**RL (e.g., between ends **331**R and **331**L) may be looped (e.g., by a user) for coupling (e.g., removably or temporarily coupling) link body **332**RL of link component **330** to base component **350**. Such apparatus **300** of FIG. **12** may otherwise be used similarly to apparatus **200** of FIGS. **2-11**.

FIG. **13** shows a right side elevational view, similar to FIGS. **8-11**, of yet another exercise apparatus **400**, in a second stage of use, similar to the stage of use of FIGS. **8** and **12**, while FIG. **14** shows a front elevational view, similar to FIG. **12**, of exercise apparatus **400**, in the second stage of use of FIG. **13**. Apparatus **400** of FIGS. **13** and **14** may be similar to apparatus **200** of FIGS. **2-11** but may include two distinct base bodies, a single limb attachment component, at least one link body removably coupled to an anchor body but fixedly coupled to a base body, and a link body removably coupled to a user limb. Apparatus **400** of FIGS. **13** and **14** may include similar components to apparatus **200** of FIGS. **2-11**, with components of apparatus **400** of FIGS. **13** and **14** being labeled with "4xx" reference labels that may correspond to the "2xx" reference labels of the labeled components of apparatus **200** of FIGS. **2-11**, where differences therebetween may be described below.

As shown, apparatus **400** may include an anchor component **410**, a back base component **450**B and a front base component **450**F, and a link component **430**. Anchor component **410** may include an anchor body **411** that may be operative to extend along at least a portion of user limb **260** when anchor component **410** is coupled thereto (e.g., at location **273** along at least a portion of first limb portion **270**). Additionally or alternatively, anchor component **410** may also a limb attachment component **412** that may be operative to couple anchor component **410** (e.g., anchor body **411**) to user limb **260** (e.g., at location **273** of first limb portion **270**). Limb attachment component **412** may be any suitable mechanism, such as a strap, and may provide the geometry for most if not all of anchor body **411**.

A front base component **450**F may include a front base body **455**F with top and bottom front base surfaces **456**FT and **456**FB as well as left and right front base side surfaces **454**FL and **454**FR, each of which may generally extend between a back front base end **452**FB and a front front base end **452**FF for forming the structure of front base body **455**F. As shown, front base body **455**F may be operative to surround, support, or otherwise contact at least a portion second limb portion **290** (e.g., at limb end **291**, such as about a toe region from underneath the foot and about a front of the foot and/or over a portion of the top of the foot). A back base component **450**B may include a back base body **455**B with top and bottom back base surfaces **456**BT and **456**BB as well as a left back base side surface **454**BL and right back base side surface **454**BR, each of which may generally extend between a back back base end **452**BB and a front back base end **452**BF for forming the structure of back base body **455**B. As shown, back base body **455**B may be operative to surround, support, or otherwise contact at least a portion second limb portion **290** (e.g., at limb end **299**, such as about a heel region from underneath the foot and/or about a back of the foot).

Apparatus **400** may include at least one support component, such as a left support component **418**L and a right support component **418**R, which may extend between back base component **450**B and anchor component **410** for preventing anchor component **410** from moving with respect to first limb position **273** when anchor component **410** is coupled to first limb portion **270**. For example, as shown, left support component **418**L may include a support body **415**L that may extend between a top support body end **413**L and a bottom support body end **417**L, where top support body end **413**L may be coupled to any suitable portion of anchor component **410** via a top support coupling mechanism **414**L, and where bottom support body end **417**L may be coupled to any suitable portion of base component **450**B (e.g., to surface **454**BL) via a bottom support coupling mechanism **416**L. Alternatively or additionally, as shown, right support component **418**R may include a support body **415**R that may extend between a top support body end **413**R and a bottom support body end **417**R, where top support body end **413**R may be coupled to any suitable portion of anchor component **410** via a top support coupling mechanism **414**R, and where bottom support body end **417**R may be coupled to any suitable portion of base component **450**B (e.g., to surface **454**BR) via a bottom support coupling mechanism **416**R. As shown, apparatus **400** may include two support components, such as left support component **418**L

and right support component **418**R, that may be positioned on opposite sides of limb **260** when apparatus **400** is worn by the user, thereby providing suitable support on opposite sides of anchor component **410**. Alternatively, any other suitable number of support components may be provided, such as a single support component that may extend between base component **450**B (e.g., at back base end **452**BB) and anchor component **410** (e.g., at limb attachment component **412**), or no support components may be provided by apparatus **400**.

Link component **430** of apparatus **400** may include at least one link body (e.g., first center link body **432**C and/or second center link body **432**C) extending between a first link portion (e.g., first first center link portion **4310** and/or first second center link portion **431**C', respectively) and a second link portion (e.g., second first center link portion **439**C and/or second second center link portion **439**C', respectively). At least a portion of each link body may include an elastic portion, for example, similar to elastic portion **134** of apparatus **100**. As shown, one, some, or each first link portion (e.g., first first center link portion **431**C and/or first second center link portion **431**C') may be coupled to first limb portion **270** of user limb **260** at or about first limb position **273** via anchor component **410** when anchor component **410** is coupled to first limb portion **270** at or about first limb position **273**, where, for example, a link portion may be coupled to anchor component **410** via any suitable link anchor retention mechanism(s) of anchor component **410** (e.g., first center link anchor retention mechanism **421**C and/or second center link anchor retention mechanism **421**C). For example, as shown in FIGS. **13** and **14**, link body **432**C' may be a closed loop (e.g., an at least partially elastic or deformable loop, such as a rubber band or other suitable material(s)), and associated link anchor retention mechanism **421**C may be a closed ring (e.g., a metal or plastic or otherwise structurally rigid ring) through which first center link portion **431**C of link body **432**C may be passed (e.g., by a manufacturer) for securing (e.g., unremovably or fixedly coupling) link body **432**C of link component **430** to anchor component **410**. As another example, as shown in FIGS. **13** and **14**, link body **432**C may not be a closed loop but may instead be a segment (e.g., an at least partially elastic or deformable segment, such as a non-looped rubber band or other suitable material(s)) extending between free end link portions **431**C and **439**C, and an associated link anchor retention mechanism **421**C may be an open ring (e.g., C-shaped) with a hollow having a cross-sectional area less than that of respective end **431**C, whereby an opening in the ring may enable receipt of a portion of link body **432**C after which tension of body **432**C and the larger cross-sectional area of end **431**C may thereby enable link body **432**C to be removably coupled to link anchor retention mechanism **421**C (e.g., by a user). Additionally or alternatively, in some embodiments, another portion of one, some, or each link body (e.g., second first center link portion **439**C and/or second second center link portion **439**C', respectively) may be coupled to second limb portion **290** at or about second limb position **293** via front base component **450**F when front base component **450**F is coupled to second limb portion **290** at or about second limb position **293**, where, for example, a second link portion may be coupled to base component **450**F via any suitable link base retention mechanism(s) of base component **450**F. For example, as shown in FIGS. **13** and **14**, center link body **432**C of link component **430** may not be a closed loop but may instead be a segment (e.g., an at least partially elastic or deformable segment, such as a non-looped rubber band or other suitable material(s)) extending between free end link portions **431**C and **439**C, and associated link base retention mechanism **441**C may include a feature with a hollow having a cross-sectional area less than that of respective end **439**C and through which link body **432**C may be passed (e.g., by a manufacturer) for securing (e.g., unremovably or fixedly coupling) link body **432**C of link component **430** to base component **450**F. As another example, as shown in FIGS. **13** and **14**, link body **432**C' of link component **430** may be a closed loop (e.g., an at least partially elastic or deformable loop, such as a rubber band or other suitable material(s)), and a link retention mechanism may be provided directly by a portion of second limb portion **290** (e.g., at or near position **293**, such as the bottom of a user's foot near the ball of the foot, similarly to channel **351** of base component **350** of apparatus **300**) about which portion **439**C of link body **432**C' may be looped (e.g., by a user) for coupling (e.g., removably or temporarily coupling) link body **432**C of link component **430** to user limb **460** when apparatus **400** is worn by limb **460**. Such apparatus **400** of FIGS. **13** and **14** may otherwise be used similarly to apparatus **200** of FIGS. **2-11**.

FIG. **15** is a right side elevational view, similar to FIGS. **8-11** and **13**, of yet another exercise apparatus **500**, in a second stage of use, similar to the stage of use of FIGS. **8** and **12-14**, while FIG. **16** is a front elevational view, similar to FIGS. **12** and **14**, of exercise apparatus **500**, in the second stage of use of FIG. **15**, while FIG. **17** is a top view, similar to FIG. **4**, of exercise apparatus **500**, in the second stage of use of FIGS. **15** and **16**. Apparatus **500** of FIGS. **15-17** may be similar to apparatus **200** of FIGS. **2-11** but may include at least one link body fixedly coupled to each of an anchor component and a base component. Apparatus **500** of FIGS. **15-17** may include similar components to apparatus **200** of FIGS. **2-11**, with components of apparatus **500** of FIGS. **15-17** being labeled with "5xx" reference labels that may correspond to the "2xx" reference labels of the labeled components of apparatus **200** of FIGS. **2-11**, where differences therebetween may be described below.

As shown, apparatus **500** may include an anchor component **510**, a base component **550**, and a link component **530**. Anchor component **510** may include an anchor body **511** that may be operative to extend along at least a portion of user limb **260** when anchor component **510** is coupled thereto (e.g., at location **273** along at least a portion of first limb portion **270**). Additionally or alternatively, anchor component **510** may also a limb attachment component **512** that may be operative to couple anchor component **510** (e.g., anchor body **511**) to user limb **260** (e.g., at location **273** of first limb portion **270**). Limb attachment component **512** may be any suitable mechanism, such as a strap, and may provide the geometry for most if not all of anchor body **511**. A back anchor body portion **511***b* may provide padding for comfort to user limb **260** when anchor component **510** is coupled thereto for being worn by the user.

A base component **550** may include a base body **555** with top and bottom base surfaces **556**T and **556**B as well as left and right base side surfaces **554**L and **554**R, each of which may generally extend between a back base end **552**B and a front base end **552**F for forming the structure of base body **555**. As shown, base body **555** may be operative to surround, support, or otherwise contact at least a portion second limb portion **290** (e.g., at limb end **291**, such as about a toe or ball region of a foot (e.g., at or near position **293**) from underneath the foot and about a side or sides of the foot and/or over a portion of the top of the foot). Apparatus **500** may or may not include at least one support component (not shown) for heling to preventing anchor component **510** from moving

with respect to first limb position **273** when anchor component **510** is coupled to first limb portion **270**.

Link component **530** of apparatus **500** may include at least one link body (e.g., left link body **532**L and/or right link body **532**R) extending between a first link portion (e.g., first left link portion **531**L and/or first right link portion **531**R, respectively) and a second link portion (e.g., second left link portion **539**L and/or second right link portion **539**R, respectively). At least a portion of each link body may include an elastic portion, for example, similar to elastic portion **134** of apparatus **100**. As shown, one, some, or each first link portion (e.g., first left link portion **531**L and/or first right link portion **531**R) may be coupled to first limb portion **270** of user limb **260** at or about first limb position **273** via anchor component **510** when anchor component **510** is coupled to first limb portion **270** at or about first limb position **273**, where, for example, a link portion may be coupled to anchor component **510** via any suitable link anchor retention mechanism(s) of anchor component **510** (e.g., left anchor retention mechanism **521**L and/or right anchor retention mechanism **521**R). For example, as shown in FIGS. **15-17**, link body **532**L may be a closed loop (e.g., an at least partially elastic or deformable loop, such as a rubber band or other suitable material(s)), and associated link anchor retention mechanism **521**L may be a closed ring (e.g., a metal or plastic or otherwise structurally rigid ring) through which first left link portion **53** IL of link body **532**L may be passed (e.g., by a manufacturer) for securing (e.g., unremovably or fixedly coupling) link body **532**L of link component **530** to anchor component **510**. Additionally or alternatively, as another example, as also shown in FIGS. **15-17**, link body **532**R may be a closed loop (e.g., an at least partially elastic or deformable loop, such as a rubber band or other suitable material(s)), and associated link anchor retention mechanism **521**R may be a closed ring (e.g., a metal or plastic or otherwise structurally rigid ring) through which first right link portion **531**R of link body **532**R may be passed (e.g., by a manufacturer) for securing (e.g., unremovably or fixedly coupling) link body **532**R of link component **530** to anchor component **510**. Additionally or alternatively, in some embodiments, another portion of one, some, or each link body (e.g., second left link portion **539**L and/or second right link portion **539**R, respectively) may be coupled to second limb portion **290** at or about second limb position **293** via base component **550** when base component **550** is coupled to second limb portion **290** at or about second limb position **293**, where, for example, a second link portion may be coupled to base component **550** via any suitable link base retention mechanism(s) of base component **550**. For example, as shown in FIGS. **15-17**, left link body **532**L of link component **530** may be a closed loop (e.g., an at least partially elastic or deformable loop, such as a rubber band or other suitable material(s)), and an associated link base retention mechanism **541**L may be a closed ring (e.g., a metal or plastic or otherwise structurally rigid ring) through which second left link portion **539**L of link body **532**L may be passed (e.g., by a manufacturer) for securing (e.g., unremovably or fixedly coupling) link body **532**L of link component **530** to base component **550**. Additionally or alternatively, as another example, as also shown in FIGS. **15-17**, right link body **532**R of link component **530** may be a closed loop (e.g., an at least partially elastic or deformable loop, such as a rubber band or other suitable material(s)), and an associated link base retention mechanism **541**R may be a closed ring (e.g., a metal or plastic or otherwise structurally rigid ring) through which second right link portion **539**R of link body **532**R may be passed (e.g., by a manufacturer) for securing (e.g., unremovably or fixedly coupling) link body **532**R of link component **530** to base component **550**. Alternatively, although not shown in FIGS. **15-17**, rather than two link bodies **532**L and **532**R and a base component **550**, link component **530** may include a single base body that may be coupled to anchor component **510** and that may be removably coupled to second limb portion **290** (e.g., similarly to base body **432**C of apparatus **400**), such that no base component may be needed at all. Such apparatus **500** of FIGS. **15-17** may otherwise be used similarly to apparatus **200** of FIGS. **2-11**.

It is to be understood that different features of different embodiments of apparatus **100**, apparatus **200**, apparatus **300**, apparatus **400**, and apparatus **500** may be combined to form any suitable exercise apparatus for use by any suitable user limb **160**. For example, any suitable number of link bodies may be fixedly or removably coupled to an anchor component and/or a base component using any suitable coupling mechanism. In some embodiments, at least one portion of each link body may be coupled to at least one of an anchor component and a base component at all times such that that link body may not be easily misplaced. Any suitable number of link bodies of any suitable elastic modulus or different elastic moduli may be provided for enabling various subsets to be coupled to both first and second limb portions of the user for varying the resistance provided by the exercise apparatus during use. Only a portion of a link body may be elastic while another portion may be non-elastic. Alternatively, the entirety of a link body may be elastic.

FIG. **18** is a flowchart of an illustrative process **600** for exercising a user's limb using exercise apparatus. At step **602**, process **600** may include coupling an anchor component of an exercise apparatus to a first limb portion of a user's limb at a first limb position along the first limb portion, where the exercise apparatus includes a plurality of bands, where each band of the plurality of bands includes a band body that extends between a first band portion that is coupled to the anchor component and a second band portion. For example, as shown in FIGS. **8-10**, anchor component **210** of exercise apparatus **200** may be coupled to first limb portion **270** of user's limb **260** at first limb position **273** along first limb portion **270**, where apparatus **200** may include link component **230** with multiple link bands (e.g., link bands **232**R, **232**L, and **232**C, each of which may extend between a first band portion coupled to anchor component **210** (e.g., at portions **231**R, **231**L, and **231**C coupled to respective mechanisms **221**R, **221**L, and **221**C) and a second band portion (e.g., portions **239**R, **239**L, and **239**C)). At step **604**, process **600** may include coupling the second band portion of each band of a subset of bands of the plurality of bands to a portion of a second limb portion of a user's limb. For example, as described above with respect to FIGS. **8-10**, any subset of second portions **231**R, **231**L, and **231**C of link bodies **232**R, **232**L, and **232**C may be coupled to second limb portion **290** of user's limb **260** (e.g., at position **293**, directly or via a base component). Next, at step **606**, after steps **602** and **604**, process **600** may include providing a resistance with the band body of each band of the subset of bands to the user's limb when the user's limb increases the distance between the first limb position and the portion of the second limb portion using a joint limb portion of the user's limb that is between the first limb portion and the second limb portion. For example, as described above with respect to FIGS. **8-10**, each link body that may be extending between first limb position **273** (e.g., via anchor component **210**) and second limb position **293** (e.g., via base

component **250**) may provide a resistance to limb **260** when limb **260** increases the distance between first limb position **273** and second limb position **293** using joint limb portion **280**. In some embodiments, after step **606**, process **600** may then include coupling the second band portion of each band of another subset of bands of the plurality of bands to the portion of the second limb portion, and, after the coupling of the second band portion of each band of the other subset, providing another resistance with the band body of each band of the other subset of bands to the user's limb when the user's limb increases the distance between the first limb position and the portion of the second limb portion using the joint limb portion, wherein the other subset is different than the subset and the other resistance is different than the resistance.

It is understood that the steps shown in process **600** of FIG. **18** are merely illustrative and that existing steps may be modified or omitted, additional steps may be added, and the order of certain steps may be altered.

While there have been described apparatus and methods for exercising a limb of a user, it is to be understood that many changes may be made therein without departing from the spirit and scope of the subject matter described herein in any way. Insubstantial changes from the claimed subject matter as viewed by a person with ordinary skill in the art, now known or later devised, are expressly contemplated as being equivalently within the scope of the claims. Therefore, obvious substitutions now or later known to one with ordinary skill in the art are defined to be within the scope of the defined elements.

Therefore, those skilled in the art will appreciate that the invention can be practiced by other than the described embodiments, which are presented for purposes of illustration rather than of limitation.

What is claimed is:

1. Apparatus for use on a user's leg with respect to a stationary surface, wherein the user's leg comprises a cnemis, a foot, and an ankle joint that couples the cnemis to the foot, the apparatus comprising:

an anchor component operative to be coupled to the cnemis at a first cnemis location along a length of the cnemis;

a base component comprising a base body extending between a first base end and a second base end, the base body operative to be positioned between the foot and the stationary surface;

an extender component comprising an extender body extending between a first extender portion that is coupled to the anchor component and a second extender portion that is coupled to the base component; and

an elastic band comprising:

a first portion of the elastic band that is operative to be coupled to the anchor component; and

a second portion of the elastic band that is operative to be coupled to the base component, wherein:

when the anchor component is coupled to the cnemis at the first cnemis location and the base body is positioned between the foot and the stationary surface and the first portion of the elastic band is coupled to the anchor component and the second portion of the elastic band is coupled to the base component, an elastic portion of the elastic band is operative to provide resistance when the foot attempts to push the second base end towards the stationary surface;

the elastic band is a closed loop;

the first portion of the elastic band is coupled to the anchor component by passing through a closed ring of the anchor component; and

the second portion of the elastic band is operative to be removably coupled to the base component by looping under a portion of the base body such that the second portion of the elastic band is positioned between the base body and the stationary surface.

2. The apparatus of claim **1**, wherein the second extender portion is rotatably coupled to the base component so that the base body is operative to rotate with respect to the extender body about an axis of rotation.

3. The apparatus of claim **2**, wherein the base body is operative to rotate with respect to the extender body about the axis of rotation to a first orientation so that at least a portion of the base body contacts a portion of the anchor component.

4. The apparatus of claim **3**, wherein at least one of the anchor component and the elastic band is operative to hold the base body at the first orientation when the base body is not positioned between the foot and the stationary surface.

5. The apparatus of claim **1**, wherein the apparatus further comprises another elastic band comprising:

a first portion of the other elastic band that is operative to be coupled to the anchor component; and

a second portion of the other elastic band that is operative to be coupled to the base component.

6. The apparatus of claim **5**, wherein:

when the anchor component is coupled to the cnemis at the first cnemis location and the base body is positioned between the foot and the stationary surface and the first portion of the elastic band is coupled to the anchor component and the first portion of the other elastic band is coupled to the anchor component and the second portion of the elastic band is coupled to the base component and the second portion of the other elastic band is coupled to the anchor component, the elastic band and the other elastic band are operative to provide a first resistance when the foot attempts to push the second base end towards the stationary surface;

when the anchor component is coupled to the cnemis at the first cnemis location and the base body is positioned between the foot and the stationary surface and the first portion of the elastic band is coupled to the anchor component and the first portion of the other elastic band is coupled to the anchor component and the second portion of the elastic band is coupled to the base component and the second portion of the other elastic band is not coupled to the anchor component, the elastic band is operative to provide a second resistance when the foot attempts to push the second base end towards the stationary surface; and

the second resistance is less than the first resistance.

7. The apparatus of claim **1**, wherein the extender body prevents the anchor component from moving away from the first cnemis location when the anchor component is coupled to the cnemis at the first cnemis location and the base body is positioned between the foot and the stationary surface.

8. The apparatus of claim **1**, wherein:

the second extender portion is coupled to the base component proximate the first base end; and

the second portion of the elastic band is operative to be coupled to the base component proximate the second base end.

9. The apparatus of claim **1**, wherein:

the first extender portion is coupled to a first side of the anchor component;

the apparatus further comprises another extender component comprising another extender body extending between another first extender portion that is coupled to a second side of the anchor component and another second extender portion that is coupled to the base component; and

when the anchor component is coupled to the cnemis at the first cnemis location, the first side of the anchor component is adjacent a first side of the cnemis and the second side of the anchor component is adjacent a second side of the cnemis that is opposite the first side of the cnemis.

10. The apparatus of claim **1**, wherein:

the apparatus further comprises another elastic band that is a closed loop;

a first portion of the other elastic band is coupled to the anchor component by passing through a second closed ring of the anchor component; and

a second portion of the other elastic band is operative to be removably coupled to the base component by looping about a portion of a hook of the base component.

11. The apparatus of claim **1**, wherein the portion of the base body comprises a channel along a bottom surface of the base component for retaining at least a portion of the second portion of the elastic band when the second portion of the elastic band is coupled to the base component.

12. The apparatus of claim **1**, wherein, when the anchor component is coupled to the cnemis at the first cnemis location and the base body is positioned between the foot and the stationary surface and the foot holds the first base end against the stationary surface and the first portion of the elastic band is coupled to the anchor component and the second portion of the elastic band is coupled to the base component, the elastic portion of the elastic band is operative to provide resistance when the foot attempts to push the second base end towards the stationary surface.

13. A method for exercising a user's limb using an exercise apparatus that comprises an anchor component and a plurality of bands, wherein each band of the plurality of bands comprises a band body that extends between a first band portion that is coupled to the anchor component and a second band portion, wherein the user's limb comprises a first limb portion, a second limb portion, and a joint limb portion between the first limb portion and the second limb portion, wherein the first limb portion is a cnemis, wherein the second limb portion is a foot, wherein the joint limb portion is an ankle joint, and wherein the method comprises:

coupling the anchor component to the first limb portion at a first limb position along the first limb portion;

coupling the second band portion of each band of a subset of bands of the plurality of bands to the second limb portion by looping the second band portion of each band of the subset of bands about the second limb portion, such that the second band portion of every band of the subset of bands of the plurality of bands is the only portion of the plurality of bands coupled to the the second limb portion; and

after both of the couplings, providing a resistance with the band body of each band of the subset of bands of the plurality of bands to the user's limb when the user's limb increases the distance between the first limb position and a portion of the second limb portion using the joint limb portion.

14. The method of claim **13**, further comprising:

after the providing, coupling the second band portion of each band of another subset of bands of the plurality of bands to the second limb portion, such that the second band portion of every band of the other subset of bands of the plurality of bands is the only portion of the plurality of bands coupled to the the second limb portion; and

after the coupling of the second band portion of each band of the other subset and while the anchor component remains coupled to the first limb portion at the first limb position along the first limb portion, providing another resistance with the band body of each band of the other subset of bands of the plurality of bands to the user's limb when the user's limb increases the distance between the first limb position and the portion of the second limb portion using the joint limb portion, wherein:

the other subset is different than the subset; and

the other resistance is different than the resistance.

* * * * *